

Aviation News

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First Pictures of Britain's Newest Airliner: Great Britain has lifted some of the secrecy surrounding its first new airliner, the AVRO YORK, which may compete with U. S. transports after the war. One of the first models has reached Canada. It has four Rolls Royce Merlin engines, wing span of 102 ft., length of 78 ft., and can carry 50 passengers on short hops. It may be built in the Dominion.

Gorrell Sees Rails' Hand in Lea Report

Air Transport Association head implies air competitors had part in writing minority report on Lea Bill.....Page 13

United Fruit Asks Caribbean Air Routes

Steamship giant cites its enterprise in improving each new type of transport; seeks planes to replace lost ships.....Page 38

Luftwaffe Nosedive Seen Likely

Military commentator says raids crippled German single engine fighter output; sees blows on twin-engine plants.....Page 16

Converted War Transports Could Cut Costs

Boeing Engineer says present cargo rates could be reduced by use of converted military planes.....Page 10

Air Service Command Meets Vast Needs

Conference of officers from all battlefronts reports enormous requirements are being met by ASC.....Page 14

Overseas Travel To Exceed Cargo Revenue

ATA research chief cites possible annual traffic flow of 50,000 to 75,000 tons each way in three to five years.....Page 31

The difference between LIFE AND DEATH

*Air power Diagram
shows how
FLYING HORSEPOWER
will win our fighter pilots*



SOCOBY-VACUUM

PICTURE AN AMERICAN BOY up there, three miles above the Pacific—fighting an opponent who never will meet a second.

He's a long way from the U.S.A. and while so-called Socoby-Vacuum technicians—just, those scientists have produced a fuel which will give him a great advantage in battle!

Socoby-Vacuum's new TCC Process and the revolutionary new Bond Catalyst are the revolutionary refining developments which will make this super power possible—wholly within the power of American boys across the

at no single far enemy can't follow and come back with his sudden death.

The new super fuel will make today's 100 (thousand) pounds seem old-fashioned. It not only means far greater speed and maneuverability for our fighters, but increased range and heavier "pay loads" for U.S. bombers.

That's a new power—Flying Horsepower—will help U.S. to maintain our superiority. SOCOBY-VACUUM OIL CO., INC. and Affiliates: Magnolia Petroleum Co., General Petroleum Corp. of California.

New Super Power
for U. S. Planes

THE AVIATION NEWS

Washington Observer

BARUCH ASSIGNMENT—The appointment of Bernard M. Baruch to lead an answer to the tough question of shifting industry from war to peacetime production has been generally expected in Washington—his views commanding great respect. There are those, however, who see in the assignment a move by the administration to steal indirectly the play from Congress on reconversion. A Baruch report on the problem probably would greatly influence any legislation on the matter and it is likely the report will reflect some high administration views. Thus, without asking for it directly, those views might well dominate any legislation on the matter. A strong report is expected from Baruch on reconversion, constant legislation and related items, and later there may be another on disposal of surplus military stock such as aircraft and government-owned plants.

TO CLEAR THE AIR—With past Baruch reports as a yardstick, whatever he reports on the reconversion situation will serve a most useful purpose in clearing the atmosphere at a time when everybody is trying to crowd into the postwar planning picture. There are no fewer than five congressional committees concerning themselves with control, termination and similar problems—directly, and other groups indirectly. On the basis of current developments it appears that the committee to watch is the one headed by Senator George, of Georgia. It appears likely that many of the proposals from other groups may wind up there eventually.

POSTWAR POTENTATE—Speaking of reconversion, it is generally rumored around Washington that War Production Board Chairman Donald M. Nelson would not be adverse to heading up whatever agency is set up for the purpose. His background with WPB should be valuable. The War Production Board is now wrestling somewhat with most of the war problems faced and Nelson is said to be looking around for new worlds to conquer.

WILSON AND WPB—Rumors are rife again that Charles E. Wilson, WPB executive vice-chairman, is again getting the urge to return to General Electric. So far as his WPB assignment is concerned, Wilson has done a magnificent job. Scheduling, a tangled mess when Wilson took over, is now running smoothly. There is a rumormongering of controlled materials and the trouble-shooting job Wilson did to begin with has developed into more or less an administrative

one spot. There have been indications from time to time that Wilson feels he has done his Washington stint and would like to go home. The White House is reluctant to lose a man of Wilson's caliber and Wilson would not leave so long as there was a job to be done.

CONGRESSIONAL DOGHOUSE—There are increasing signs that the Army and Navy are edging toward the Congressional dog house, with many members indicating disapproval of procurement activities by the services, vast purchases of items subsequently not needed in such quantities and consequent surpluses and cutbacks which have developed in some categories. Some members of Congress even go so far as to hint that the constant wiggings of the military of a long-hard war are partly inspired, at least, to cover up surpluses. Congressional resentment applies, too, to the manpower situation at various times. The recent situation at Dulles where Army procurement agents took a going-over from some senators for their manpower requests.

LABOR TURNOVER—The increase of labor turnover in war and essential civilian industry



Peenase aviation metalworks at Jacksonville Naval Air Station

has reached a point where it is seriously impeding the war program, despite the attention given to the problem by management and gov-



**OVER 80%
SAVING IN
MAN-HOURS**

Production Rate: 5000 per day on 2 secondary operations 1 2



REDUCES
107
MAN HOURS
WITH
STANDARD
AUTOMATIC
MIXING
MACHINE



3 STANDARD MACHINES



24 MAN HOURS



2 STANDARD MACHINES

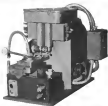


22 MAN HOURS

REDUCED TO
20
MAN HOURS
WITH OUR
SPECIAL
AUTOMATIC
MIXING
MACHINE



WITH THIS SPECIAL MIXING MACHINE INVENTED BY OUR ENGINEERS ONE MAN DOES BOTH OPERATIONS SIMULTANEOUSLY—OVER FIVE TIMES FASTER AND PRODUCES A MORE UNIFORM PRODUCT WITH LESS REWORKING.



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Pioneering NEW AND FASTER METHODS OF PRODUCTION

VOLUME 1 NUMBER 16

Aviation News
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NOVEMBER 15, 1943

Aircraft Industry's Deliveries Meet Schedules for Vital Types

October production exceeds goals in various models, including heavy bombers, and some officials believe total rate of 9,000 a month will be reached by Jan. 1.

By SCOTT HERRSHY

The record-breaking October airplane unit production, important in itself, was more significant in the fact that in most categories, chiefly the most-wanted plane types, the output was close to and in some cases above schedule. The goal for heavy bombers was attained.

Two factors are reflected in this accomplishment of the aircraft industry, the upward trend of production on one hand and the Government's readjustments of schedules toward more realistic figures on the other. The October plane output of 8,860 represented an important step forward toward the peak production rate of 10,000 airplanes monthly and prompted speculation that output of 9,000 planes a month will be reached before year-end.

Not All Are Combat Ships—It is sometimes overlooked that all planes in the total are not combat types, that transports and trainers are included, although trainer production proportionately has been reduced. It includes, too, light liaison planes and other types. As T. P. Wright, Director of the Aircraft Resources Control Office, pointed out in an interview with AVIATION NEWS some weeks ago, gliders are not included in the total aircraft figures.

Glider Gets Boost—Glider production was reported up in October along with powered planes and at these figures are counted it is likely that total aircraft for the month would be very close to 9,000.

Important, too, was the statement of WPB Chairman Donald Nelson that in airplane weight the preliminary figures show a gain of nine percent over September. This is the largest output to date of heavy bombers in a single month, mostly Boeing Flying Fortress and Con-

solidated Liberator, which Nelson's report said "made up the large bulk of the heavy bomber production."

The implied that the record-breaking output included a number of the new Boeing superbombers

which the Army has now officially decided on the B-29.

Nelson said "we are going to produce more and more Fortresses and Liberators as well as large numbers of super-bombers."

Heavy Fighters—Of the 6,503 total for October, production experts estimate that heavy bomber output is more than 18 percent of the total, with fighters one-fourth of the total. Nelson's report said that the figures indicate outstanding achievement in fighter output and that one top-priority fighter, delayed by design changes, showed an extra large gain for the month.

Industry production men said the reference probably was to Lockheed, given a top labor priority on the West Coast, or to Bell in Buffalo, now the largest unit producer of fighters.

Parts Shortage—Some—Greatest threats to a continuance of the record-breaking production through next year are manpower and some materials with ball bearings most critical at the moment. The raw material problem is least pressing currently. Plans and engine parts will be under manpower as obstacles to further production increases.

One More Step

Another important step in evolutionary process toward a unified Air Force is seen by Washington aviation observers in a letter by Gen. Arnold to all AAF personnel indicating that the terms "arms and services" will be converted to the Air Corps and brought into functional AAF organizations.

"The Chief of Staff has authorized by direction of the Secretary of War the elimination of arms and service branch distinctions within the Army Air Forces," General Arnold says.

"This authorization marks a most important milestone for the Army Air Forces and was given in order that we can build a more completely integrated, more efficiently functioning, bordering nothing less—a team wherein the members have but one loyalty, one purpose, one distinguishing interest."

"You are all members of this team, whether you pack the planes, repair the guns, load the airfields, maintain the radios, drive the trucks, handle the supplies, or may for the sick and wounded. Your teamwork in the past has been the basic reason for our outstanding success against the enemy. Your efforts toward greater teamwork in the future will hasten the enemy's defeat and 'unconditional surrender'."

Inland Sale Price

Western paid \$50,688 or \$2.63 a share for 85 percent of stock, CAB reveals.

All parties concerned with the absorption of Inland Air Lines by Western Air Lines have agreed to two-bearing conferences before the Civil Aeronautics Board that the major issue in the proceeding was the purchase price, the board ordered this week revealed.

Western Air Lines has agreed to pay \$363,688.65 or \$2.63 per share for 137,541 shares, or 85 percent of the outstanding stock of Inland Present holders of this stock, all officers of Inland, are: Richard Lefteris, 17,844 shares; Marvin W. London, 38,216; G. O. Brooker, 8,051; and Dr. Allan McClellan, 5,980.

Contingencies—Various contingencies, pending final approval of CAB, are set forth in the sales agreement, which further states that

these shall be determined and settled prior to Dec. 14, 1943. Western also plans, according to the agreement, to offer to purchase holdings from all other stockholders of Inland on the same basis, as soon as practicable after the board's final approval.

Island Air Lines' report, attached to the sales agreement, revealed profit for seven months ended July 31, 1943, of \$18,000.

Coast Plants Raise Manpower Sights

Airline companies seek to open recently increased Army schedules.

By SCHÖLER BANGS

West coast airline factories are raising their sights on manpower needs, anticipating spread revision of Army production schedules.

Their new goal—the eight major companies in West Coast Aircraft War Production Council—is a net increase of 10,000 direct labor workers to bring plants to the edge of capacity production.

More Workers Needed—Two weeks ago, meeting current military schedules for the first time in months, they estimated a need for a net gain of 13,000 workers. En-

plan on need for production line "direct workers" will drive a new tone to western manpower recruiting.

AWPC admits a surplus of "indirect labor" and in Los Angeles Advertising Club speech T. C. Coleman, vice-president of Northrop Aircraft, Inc., said "It is becoming more difficult to recruit the proper number of direct, productive workers. Most of the applicants at aircraft plants want to be executives, clerks or expeditors. America still has the white collar complex."

70-Hour Week—Western rec-

tion to Charles E. Wilson's appeal for a ten-hour, five-day week continues to be one of opposition with a single exception. Northrop at Hawthorne swung all production departments into the ten-hour day on May 18 because we had been asked by Mr. Wilson to do so.

Company officials have no idea what production gains, if any, will be shown by the move. The action returns Northrop to its pre-Pearl Harbor work week, which was changed to three-shift production by Army request immediately following declaration of war.

Post-War Gains Will Contribute Bulk of Air Cargo, Burden Tells SAE

Aviation aide to commerce secretary declares future economic developments of country will determine extent of air freight industry's growth.

Current discussions on the future of air cargo frequently overlook the fact that war experience with air cargo on a really commercial scale is limited and, as pointed out by William A. M. Burden, special aviation assistant to the Secretary of Commerce, we shall have to probe our

way forward in developing air cargo markets.

Burden says the great objective of air cargo is not to be measured in terms of present tonnage at present rates, but rather its greatest market will be found in the traffic terms of future developments in our economy, many of which are now well under way.

Competition—“But to get the future traffic, air cargo must be in a position to bid for it,” Burden told the Society of Automotive Engineers Meeting in Chicago. “Competition for existing traffic provides the market mechanism by which air cargo can prove itself as a safe, swift, flexible, and economical means of transport for an increasing number of shippers with goods of all kinds to sell. Once proved on a really large scale, a very great future lies before it.”

Burden said different opinions among different persons and companies are going to put emphasis on different aspects of the task of developing air cargo. It is essential, Burden's opinion, that “we do not hesitate to try each and every available idea. It is equally essential that as many as possible should be tried out simultaneously.”

Missions Post-War Drop—He said we are apt to forget the effect on air transport of the general course of business activity and economic well-being. He added that “of course, we may come down from wartime production heights, but I do not believe we'll go down very far or stay down very long.”

Burden emphasized that any calculations on air cargo must be based on the assumption of much lower air cargo rates than have prevailed in the past and that, clearly, we cannot hope for any large volume of air cargo so long as transportation rates remain high.

Air Ten-Mile Rate—“I think we can hope to achieve a rate to the consumer of 10 to 20 cents per air ton-mile in the not too distant future—at least we ought to set that as a primary objective for the early post-war years.”

While conceding that the consequences of a changing world on air cargo are not exactly calculable, Burden is convinced there will be more air cargo business resulting from these changes than from shifting the high-rate existing surface cargo into the air.

Oklahoma Conference Charts Air Needs

Present and post-war requirements outlined at First National Clinic.

Leaders in the manufacturing, operating and servicing organizations of the aviation industry, together with public officials carrying responsibilities in these fields, pooled their background and experience as an attack on the problem of shaping a national pattern for domestic aviation at a meeting in Oklahoma City last week.

NAA Is Sponsor—This First National Clinic of Domestic Aviation Planning was held under the auspices of the National Aeronautics Association and had the endorsement of President Roosevelt, William A. M. Burden, Special Aviation Assistant to the Secretary of Commerce, L. Welch Pappas, Chairman of the Civil Aeronautics Board, and other industry leaders.

Discussed were such subjects as the domestic air pattern for tomorrow, development of air policy for aviation facilities, the place of the municipality in the development program, the analysis of air cargo experience, the priority transport, potential aircraft, long range aircraft, fixed base operation, trade schools and aviation education, the helicopter and various related subjects.

Post War Surplus Stocked—Disposition of surplus aircraft owned by the government and disposition of war aviation plants were discussed along with contract terminations.

Possible development in local and



METAL REPAIR MATS INSTALLED IN THE ALBUQUERQUE:

Originally developed for landing strips, steel mats are now also in use in the Pacific war zone of air bases. Here they are seen being installed in the tail of a Vought-Sikorsky Kingfisher somewhere in the Aleutians. At left is a Catalina Kingfisher flying above patrols in this area.

freder-like services and the question of how far the government will go in promotion and regulation of commercial and private flying also were discussed at length. O. M. Moner, vice-president of American Airlines, was program chairman and Roosevelt Adams, manager of Municipal Airport at Birmingham, Ala., was program director.

Asks New Oil Engine

Canadian air freight officials urge more efficient high speed transports.

In the nation which has developed the gasoline engine to amazing efficiency, a former Canadian fleet plane transport operator last week urged the design and development of “a new type of power plant” for aircraft which would burn oil.

Gasoline Type Too Costly—“The present day gasoline type engine, although effective for war work, is entirely too expensive for peacetime operations,” said W. L. Brimble, of Aircraft Repair, Ltd., before the SAE air cargo meeting.

“This new engine should burn fuel oil and I believe if properly designed the cost can be brought down to \$2 per pound per horsepower hour.”

Need Small Transports—He urged development of hundreds of small

efficient single-engine transports which will operate over the war to the world's hinterlands. These planes could use wheels, pontoons, or skis; would be designed for maximum maneuverability, having good take-off and landing characteristics, with large doors and strong doors. They should fly at 120 degrees above zero or 70 degrees below without refueling adjustments.

Can Land as Stream—In many undeveloped countries lakes and rivers will enable aircraft to maintain operations until airports are built.

Sees Helicopter As Mail Carrier

First practical peacetime use of helicopters will be in carrying air mail, Walter Watson, engineer for Shell Research Laboratories, Detroit, told the Society of Automotive Engineers' air cargo meeting last week.

Watson and Richard Hewitt, chief engineer of Kellert Aircraft Corp., Philadelphia, discussed helicopter design trends and retrofitting factors.

Limited Field—The helicopter's limited field for the private owner is due to its difficulty in flying. But it may serve as a passenger trans-



PLANE FUEL FROM COAL:

This Panchard 34 is believed to be the first airplane in the United States to make a sustained flight powered by gasoline derived from coal. The plane was piloted from Morgantown, W. Va., to Washington by Maj. Arthur C. Hyde, wing commander of the Detroit of Columbia-Maryland Civil Air Patrol, with Rep. Jennings Randolph of West Virginia (front, kneeling), as passenger and plane-time pilot. Some members of the Senate Public Lands Committee and House Mines and Mining Committee wait the plane.

port from downtown areas to airports in fleets of small craft rather than large multi-passenger airplanes.

Relaying single rotor models appears difficult and there is still little knowledge of characteristics of helicopter craft such as the P-1, LePage, he said. The P-1, recently demonstrated in Washington, he described as one of the "most interesting and successful early developments," although Bell Aircraft Corp. has a helicopter which is doing early flight testing.

Converted Transports Could Cut Cargo Costs, Boeing Engineer Says

Tells SAE group that military cargoers, suitably modified, would permit lower air freight rates during transition to new designs.

In the matter of thousands of speculative wars regarding new, specially designed cargo planes of the future, an outstanding engineer comes forward with the conclusion that not only can military transport equipment be converted to commercial use, but that air cargo rates could be reduced from present levels by the use of such equipment.

R. C. Wells, chief engineer, Boeing Aircraft, holds that present cargoers can be reduced by the use of converted transport equipment, and agrees that still further gains are possible with aircraft especially designed for the purpose.

Boys Bombers Could Be Modified—The next even further, says the military engineer, is that many of the present military transports, contends that the Consolidated Liberator and Boeing Flying Fortress bombers could be converted to commercial use by some-half extensive modification.

Wells suggests that for this type of plane a completely new fuselage designed for commercial use would be necessary if passengers are to be carried, and even if only cargo is carried additional doors and doors would have to be provided. Wells stated that extra for military equipment, such as turrets, require heavy weight penalties that might be reduced by suitable modifications.

Superchargers Useful—American heavy bombers, he noted, are equipped at the present time with turbo superchargers which would not use for commercial operations but would in general reduce payloads for short range, low altitude flights.

Wells expressed his views in a discussion before the Air Corps En-

Northrop Dividend

Following an out-of-the-way report to stockholders in Berkeley, Northrop Aircraft, Inc. voted its first dividend Nov. 6, 40 cents, payable Dec. 29 on cash of record Nov. 18, covering the outstanding shares. Northrop stock was first offered in July, 1938, at \$4 per share.

compliance with the existing speed requirements will affect the allowable operating weight for these types to a considerable degree greater than for the re-converted transport types.

Wells said probably the most useful type of transport airplane in the transport type, originally designed for commercial use and converted for military operations. This type of airplane, when made available to the airlines, can, could be re-converted for such use with relatively minor changes.

Discussing the cargo carrier type (such as the C-47) which is usually for military cargo, Wells said this type can be converted for commercial use but that the converted model would probably be a high performance machine which would not meet the requirements of the Civil Air Regulations and would therefore not be comparable to a re-converted commercial transport.

Hughes Squelches Industry Rumors

Removes enthusiastic about cargo planes, denies delays or friction with Kaiser.

By MARY PAULINE PERRY

Howard Hughes, top flight air-minded engineer and designer, in an interview with AVIATION NEWS expressed a great desire for aviation, was plainly enthusiastic about the Kaiser-Hughes cargo plane project, and discussed the purchase of TACA, by Transcontinental and Western Air, Inc.

Enthusiastic About Future—"The future of aviation is entirely bright and the future of the world is, to date, the possibilities are infinite," he said.

Although he stated he is not now working as any particular plane designer, and that he is not in the air, he is, he is expected in aviation circles that he will enter the commercial aircraft field. He is head of Hughes Aircraft Co. and a partner in the Kaiser-Hughes cargo plane program.

The Kaiser-Hughes program, which involves the building of three giant cargo ships, was started almost a year ago.

No Major Cargo Changes—Hughes made a claim that there have been no changes in design or material of the three ships. The original design, brought to Washington by Henry Kaiser, was a Hughes design and only such alterations as customarily become necessary in construction of a new design have been made, he claimed.

He decided to estimate when the three ships would be ready for flight. However, Henry Kaiser said later that he had given WPA guarantees that the first of the planes would fly next year.

Kaiser-Hughes Feud—A query on rumors that Hughes wanted to withdraw from his contract with Kaiser elicited Hughes' reply that it was not so. He stated he and Kaiser have never had an argument or misunderstanding of any kind.

In addition to his holdings in the overall construction field, Hughes owns about 43 percent of the stock of TWA. Although TWA recently bought a major interest in the South American TACA airline, he said that at this time TWA planned no further expansion of operations outside continental United States and he owns stock in no other airlines.

To Retain TACA Management—Hughes further stated that there is no intended change in the management of TACA. He stated that he has no better man could be in charge than Lowell Yerxa, who has built the airline up to its present size from a very meager beginning.

During the interview, Hughes said that if he did not own the commercial aircraft field after the war he had no plans to build any form of helicopter.

Nelson Tour May Revise Plane Program

Mission of WPB chief described purely as press conference in Washington.

Important reviews in our war production program are expected during the recent tour made by WPB Chairman Donald H. Nelson, to Russia and various combat areas.

While Nelson in a press conference declined to disclose the nature of the changes there were indications that they will concern aircraft, with the emphasis as always on accelerated output.

Pruders ASC and AEC—Nelson said he was particularly impressed with the work of the Air Service Command which he said was reporting 50 percent of the planes within 24 hours, 10 percent within 48 hours, and 80 percent were being moved to more permanent installations to be rebuilt and returned to the battlefield. He also praised the Air Transport Command's world-wide cargo system.

In Russian aircraft factories two

material down into one end of a plank and a finished airplane emerges from the other end with every part, even engine, built entirely under one roof, he said.

No Workmen—The Russian method of scheduling material and component parts is also unique. He said no workmen and no stockpiles of materials or parts in the plants.

The Russians are building planes of their own design except for transport. The transport most frequently seen in Russia is a version of the Douglas DC-3.

Aircrafts Best Popular—Bell's P-39 Airacobra is still the most popular American product among the Soviet pilots.

Hunter Now Job For Nelson—He cocked he had been on a special mission for the President and many Washington observers think he is being groomed for the reconversion job for the United States.

While in England Nelson visited fighters, medium bomber, heavy bomber commands, Air Headquarters and the Air Service Command.

"I think we are now about a month away from seeing the results of the plans now in progress in American production when we may see battle damage our planes could withstand. The British have learned a great deal from the fundamental principles of mass production and he was favorably impressed with the output

Ask Private Ownership

N. Y. State Chamber of Commerce urges competing world airlines.

Fast recommendations for government action to protect postwar air transportation development have been made by the New York State Chamber of Commerce in a resolution unanimously adopted.

Spoken by the chamber's committee on aviation, they proposed that the government, (1) go on record in support of principles of private ownership and operation of airlines, (2) encourage international, subject to government regulation; (3) encourage a world-wide commercial air transportation free of monopolies and "unbridled competition," capable of promoting domestic and foreign commerce and maintaining military value; (4) in arrangement for suitable civil and commercial airports and facilities at home and abroad, and (5) adopt a policy allowing foreign lines only those periods of routes by which home governments to American-owned airlines, on the basis of reciprocal international agreements.

WLB Airframe Panel Holds First Meeting

Summary of week's activities in U. S. Bureau and War Agencies.

The airframe panel of the National War Labor Board held its first meeting in New York last week. It is a three-man panel, with jurisdiction over wage and salary disputes and also over non-wage issues when such are part of a wage dispute.

Thomas L. Norton, professor of economics at the University of Buffalo, a chairman Gerry Collins, of an American group, led representatives of the International Assn. of Machinists-AFL, will act on cases involving his union. In UAW-CIO cases, Ed Hall of Cleveland, international representative of IAW, will be the UAW representative. Also on the industry industry member is John Mende, labor relations representative of Bell Aircraft, Buffalo.

Withdrawal—NWLB assumed that the American group, led by Collins, had been withdrawn from the jurisdiction of the arbitrator panel and returned to the 12th regional board in Seattle.

Bonus of \$4 an hour for a small group of flight-line inspectors of the Knoxville, Ind., modification center of Republic Aviation Corp. was unanimously approved by NWLB. To compensate for hazards involved in completing test flights on the Boeing biplane, the board granted monthly earnings of these inspectors to about \$410.

Certified for building maintenance electronics at the Oklahoma City plant of Douglas Aircraft Co. International Brotherhood of Electrical Workers-AFL; for employees of the production planning and tool drawing departments of the aircraft division of the Douglas Corp., Louisville International Assn. of Machinists; and for production and maintenance employees of the St. Louis Aircraft Corp., United Brotherhood of Carpenters and Joiners of America, Aircraft Division-CIO.

NLWB ordered an election within 30 days of Oct. 28 by tool makers and production and maintenance employees of Southern Aircraft Products Division, Avondale, Ariz., Toledo. The union will vote for Mechanics Educational Society of America, for UAW-CIO, or for neither. The latter will vote for or against representation by UAW-CIO.

Delaware Plant Corp. requested a contract for \$15,666 with Avco, Inc., Los Angeles, to provide equip-

ment at a plant in California. DPC also increased its contracts with Avcon Aircraft Corp., Midfield, Ohio, and with Carlson-Wright Corp. A total of \$23,000 goes to Avcon for additional equipment at an Ohio plant raising the total commitment to about \$1,349,600. For additional facilities at a plant in Kentucky, Carlson-Wright was awarded \$5,400,000. This increase brings the over-all commitment to \$6,310,000. In each case, the company will operate the facilities, little remaining with DPC.

Manufacturers—Manufacturers of parts, accessories and end products requiring basic magnesium materials were relieved of the necessity of filing magnesium inventory reports. War Production Board announced. Producers, fabricators and smelters of basic magnesium materials are unaffected by this amendment.

Aluminum—A list of names and short addresses of the largest producers of aluminum, aluminum-fabricated products and aluminum castings and magnesium magnesium-fabricated products and magnesium castings has been compiled by WPA. It may be obtained from Room 1500, Social Security Building, Washington, D. C. Plant essentiality was clarified by

War Manpower Commission in a memorandum to regional directors. When war manufacturing activities are inseparable from those classified as defensible activities, the entire establishment should be deemed as essential, if approximately 75 percent of its activities are essential. However, when the essential activities of a plant are separate and distinct from those unclassified or non-defensible, the establishment should be designed as essential only with reference to that part engaged in war production.

Cost Guard has amended regulations regarding reserve aviators and aviation student pilots to make them eligible for certain benefits, such as government insurance. Distinctions as aviators serving the reserves is made by the commandant.

Labor Areas—To help reinforce the necessity for further extension of stringent labor area controls, the operations of prime contractors was asked in cutting down even more on placement of subcontractors in tight labor areas. In a letter to prime contractors, Charles E. Wilson, War Relocation vice-president, stressed the necessity for bringing labor supply and production requirements into balance and asked for suggestions on how to relieve pressure on critical labor areas.

Plants Must Speed Up To Meet Plane Record

Eight percent increase needed to equal 3,352 October peak, says Wright.

T. P. Wright, director of the Aircraft Resources Control Office, estimates some 3,390 to 3,500 airplanes will be produced in November, but pointed out that in order to pass the record-breaking October output of 3,352, daily production must be increased by eight percent.

He explained this by saying that in October there were effectively 27 working days, including Oct. 1, the first day, a Sunday, were above the daily average. However, in November there will be an effect 25 working days. Although Thanksgiving and Armistice Day will not be recognized as holidays, delays will no doubt develop.

Heavy Bombers—In regard to heavy bombers, Wright said the industry is about one month ahead of President Truman's campaign schedule. Production originally was peaked to 300 heavy bombers a month by June 1944, and later increased to 1,999 a month. This record, he said, was achieved in October of that year. During October, Army's schedule for heavy bombers, always slightly higher than expectancy, was off by only nine planes.

Turning to a discussion of the vital manpower problem, Wright said the West Coast situation is not nearly so hopeless as it seemed two months ago. Although nearly all the plants need additional workers, the general situation has shown improvement, he said, under operation of the West Coast Manpower Program. Draft deferments have helped, Wright said, and additional aid is forthcoming in the recovery by the industry of key personnel from the Army, a program now getting under way.

Los Angeles Aids Drive—He noted that Los Angeles has cooperated with the federal government and the aircraft industry with the realization that it is a critical area and that the Army and Navy could not place additional controls in the area until the manpower problem was worked out. Community facilities have been improved, Wright said, and cooperation is being extended to aircraft plants generally and to their employees specifically. At the same time, Wright explained, contracts are being for accelerated production, which means there will be no easing in demand

Correll Sees Hand of Railroads In Minority Report on Lea Bill

Implies air companies were House document asking the surface carriers be allowed to enter aviation through subsidiaries.

Col. Edgar S. Correll, president of the Air Transport Association, lashed out at a House Committee report last week with the strong implication that the railroads wrote the minority report it filed on the Lea bill to amend the Civil Aeronautics Act in which it suggested that surface carriers be allowed to enter the field of air transportation through subsidiaries.

This minority move, he said, came after long hearings on the Lea measure (H. R. 2438), during which there was "not a single word in support of any change in the provisions of the law respecting the entry of surface carriers into air transportation. The subject was not even publicly debated, and not a single mention of the carrying subject, a single question bearing on the point."

Planning Speech—In criticism was voiced in an Oklahoma City speech before the First National Convention of Democratic Airline Pilots. He did not mention by name the state agency of the minority report, one of whom—Representative Nease, Tennessee Republican—has introduced legislation (H. R. 2441) which would allow surface carriers under the Interstate Commerce Act to enter the air transportation business, not as such, but through separate, although controlled or affiliated, corporations.

The ATA found the discussion of this feature of the Lea bill was not made until after he had gone at length into questions of federal vs. state air regulations, with his former employer, airport development and zoning, and engine and fuel development.

Urges Independence—That when he did come to it he called for a "total declaration of independence of civil aviation from domination by surface carriers," as a principle Lea's measure would reinforce.

Two months ago, Correll said, there were reports that the railroads would seek reversal of legal restrictions on "railroad entrance into and control of air, motor and water transportation, and were drafting legislation to amend the Lea bill. A month later, when the bill was reported, the minority recommended the change.

Coordination—That this proposal by a minority of the committee

should have been made at all," he declared, "without any consideration of the question in the hearings, is stripping enough. But it is even more surprising that the minority, in its report, makes the sweeping statement that all forms of transportation should be equally eligible to engage in any form of transportation. This is a broad sweep over on the limited subject of air transportation, the minority sets forth, as its settled position, advocacy of the whole program adopted in the railroads' regulation of which the public was advised only through the press."

Labeling "halfhearted" the argument that the railroads through control of other forms of transportation could obtain more rationalized transportation coordination, the ATA held insisted that existing airline service has developed on a coordinated basis and "has new airlines in the field and existing airlines. He said, there is no question but that the essential coordination of service will be maintained." He pointed to the work of Air Corps, Inc., as an example of coordination between air and surface carriers.

Urges Quick Passage—"To provide a nationwide coordinated service," Correll said, "it is not necessary that we break down the fence between air and surface carriers, but prevent one form of transportation from dominating and controlling another."

In his all-out plea for immediate passage of the Lea bill, which he introduced Jan. 11 and reported in revised form, after several delays, on Oct. 26, he declared a growing threat to "domestic freedom of the air" through domination of air regulations. Even a small reflection in the air of the confused motor highway situation, which he drew on as a parallel, would destroy freedom of the air and domestic civil aviation, Correll said.

Unified Regulation—The Lea bill, he told his audience, would deal with this problem satisfactorily, through unification of state regulations and standards. Why the Lea bill now does is simply to guarantee a principle which should be the birthright of every American flyer, the privilege to fly from one state to another without the risk of fail-

SHORTLINES

Breakfast carried road mail and express further during the third quarter of this year than the same three months in 1943. Mail was 475,000 lbs., more than double the 88,000 lbs. in the 1943 period. Express was 425,254 lbs. Express carried parcels and mail were up 183 percent and express parcel mail 145 percent. Express passenger miles were 45 percent over the third quarter a year ago.

Prerogative—Continental's airmail rights between Los Angeles and Dallas have been changed with its A-18 by CAA, permitting operation of Baltimore as an intermediate mail point. Postoffice inspection of mail property, but not mail, over an unannounced route between Baltimore and Pittsburgh, under a "grandfather" clause. The portfolio covering airmail service was revised.

At a pre-hearing conference on TWA's application to include Morgantown, W. Va., on its Washington-Dallas route. Five other applicants—All American Airlines, Grayhound Corp. and Blue Ridge Airlines—appeared but said they would not intervene. CAB Examiner Monroe Proctor said Oct. 2 a written record hearing date as the application.

Continental Air Lines made a plea at a pre-hearing conference to have its bearing on mail route held in Denver rather than Washington and that transportation of the evidence and files to Washington would be more difficult than transportation of evidence to Denver. The plea is being given consideration by the board.

and into some legal trap such as an on-site conference the operator of an automobile or a truck on the highways in the course of an interstate journey.

The question as to commercial aviation matters down to one of avoiding unnecessary, complicated and harassing regulation, but the bill does not contemplate that the state is to play a part. It simply provides that Congress is to be a kind of umpire through which duplication, waste and conflict can be avoided.

Development Program—He sees the measure as clearing the way for a needed program of airport development in consultation with the States, and the proper first step in cooperative development of airport areas. He described one program and said research as "very more pressing importance than as the research needed to perfect designs about the helicopter."



UNITED'S SIX UNIFORMS FOR WOMEN:

With season now contributing 40 percent of United Air Lines personnel these days, as compared with 18 percent before the war, six different uniforms are now in use for feminine employees. Left to right, they are modeled by Eleanor M. Johnson, commissary department, Dorothy Efferts, stewardess, Corinne MacNaught, air corps clerk, Jean Vance, passenger agent, Alice Wheeler, medical department nurse, and Jeanie Sparks, traffic representative.

Expanded ASC Catches Up with Needs of Vast Aircraft Forces Abroad

Officers say no plane in North African theater was grounded for lack of fuel, despite enormous requirements.

By ALEX McSURELY

New details of already tremendous and a still increasing flow of United States aircraft supplies to combat theaters around the globe have been disclosed at Air Service Command headquarters at Patterson Field, near Dayton.

Major Gen. Walter H. Frank, commanding general of the Air Service Command, recently completed a four-day meeting of key Army Air Force supply officers flown in from combat zones for conferences on future requirements.

Highlights—Despite the fact that American planes in the North African theater consumed millions of gallons of fuel and lubricants—the exact figure a contracted time—in no way was a plane grounded for lack of fuel.

As a result of battle experience, there has been a large scale revision

downward in supply tables for some items, including airplanes, landing gear, oxygen equipment. It is estimated that savings up to \$260,000 already have been made as a result of arduous cancellations due to those revisions. In most cases, the Army has found that they can salvage equipment, such as engines, oxygen bottles and other items from damaged planes without further large scale shipments.

Large Ship Losses—Losses in surface shipments due to submarines or other causes currently are negligible, with more ships available than needed at the moment.

The ASC training and supply program is geared to continued expansion and changes of the AAF, with new groups being trained and new supply tables being prepared for serving and supplying new types as they go into use.

Expansive Fleet Needed—The ASC inventory has jumped to around 500,000 planes from the 400,000 reported in a recent Office of War Information report on the ASC. Items most needed at the moment are engines.

Many United facilities have been taken over for warplane and airplane by service squadrons as the advance through Italy continues. Many of these facilities were not destroyed by the retreating Nazis and others have been rebuilt or improved. During September not one heavy bomber was grounded at Guadalcanal for want of spare parts.

Fix Hole Diggers—Equipment to dig for holes on a mass production basis is now being supplied to Washington troops in the Pacific.

An increased supply flow to Australia has answered earlier complaints that other bases along the route were directing western supplies earmarked for Australia.



ASC SUCCEEDS LUFTWAFFE:

These Air Service Command headquarters, "in" a bomb-battered hangar in Italy which formerly housed planes of the Luftwaffe, are now a U.S. bomber's final headquarters before it goes on a mission from the air field now held by the AAF.

Chile Expands Force

Plans for expansion of Chile's air force, developed largely on the rate at which the South American republic can get tactical equipment from the United States, were re-

Stowaway Ban

A bill making it a misdemeanor to stow away in an airplane was introduced the other day by Rep. Lindsay Bickworth of Kentucky. When introduced, the bill was signed by the House. Bickworth said he had learned H. R. 3471 into the House upon request, and requested to be put down for no comment.

Further investigation was called for. The stowaway was found at the end of a cable in a ball. A Pan American employee in Hawaii, in a hurry to go home, and not being duly authorized to go overseas, put him self inside a mail bag, there into the mail compartment of a Clipper, which carried him to what Hawaiian call the "mainland." When the law got him it could charge only that he didn't change his registration address.

per by Lt. Gen. Miguel Tovar, chief of the Chilean air force, in an interview at Wright Field, Dayton, last week.

Chile's air force expansion is being patterned largely after the program of the U. S. Army Air Force, in training, procurement and maintenance. Already early phases of the expansion have gotten under way with the building of barracks, construction of new air bases, and outfitting new units to serve for training. Training planes already have been sent from the United States, he said.

Sen. Brewster Asks U. S. Air Policy

Warner poster has early preview will end six months after close of war.

Senator Ralph G. Brewster, of Maine, a Truman Committee member who was among the few senators who urged the globe in an investigation of war demands, has reported to the Truman Committee that the most impressive lesson of his trip is the transportation brought about by air transport.

He noted that America has built and is operating hundreds of airfields all across the world, costing hundreds of millions of dollars.

Seen End of Air Rights—"We have no right of access at the present time to any of those airports—built by our money outside the Western Hemisphere—six months after the

war comes to an end," Brewster said. "This seems to be a situation that invites early attention, in view of the certain significance of air transport in the world that is to be."

Brewster said some current discussions have proceeded on the hypothesis that the only concern involved was that of military air bases and added that this is very far from being the case.

Problems—Military aviation problems undoubtedly will be worked out in conjunction with the others concerned in the United Nations and appropriate decisions reached regarding the allocation of responsibility in the keeping of the peace and the use of the various facilities that are necessary to handle them.

"This," said Senator Brewster, "is very far from reaching the root of the problem, since military aviation and expansion must necessarily progress with a commercial base."

Resolution—Brewster emphasized that the facility to be planned is a completely evolving art with almost unlimited possibilities in the decades immediately ahead must rest in substantial measure on the progress and development of commercial aviation. In the field, America has a tremendous start as a result of the extent to which commercial air travel had developed before the war.

In the field of transoceanic aviation, one American company had been a leader in the world with operating rights in more than 80 foreign countries and coping successfully with the keen competition of the far more closely supervised commercial European and Soviet airlines in other countries."

Points to British Policy—Brewster said Britain is continuing the policy of "casualty in overseas aviation with the great British Overseas Airways empire financed by government funds and placing at its head one of the ablest administrators and keenest minds in the British Empire in the person of Lord Knollys, formerly governor of Bermuda and now directing his great talent to the future of Britain in commercial aviation around the world."

Asked Senator Brewster: "Once when it is treason for America to take thought as to its position in this field, it is treason for us not to do so," he said that it is equally important to suggest that the hundreds of millions of dollars invested by America in airfields in all parts of the world may perhaps be perished to serve in some measure the interests of America in the air support of peace."

ARE THERE "DIM-OUT AREAS" INSIDE YOUR PLANT?



Reflecting floors made with Atlas White cement would actually increase illumination in this vertical work surface.

The proven value of considering the floor as a contributing factor to effective lighting is an outgrowth of wartime airplane production.

Lighting tests made by General Electric engineers in a bomber plant showed that a Light-Reflecting Floor, made with Atlas White cement, reflected 60% more light than an adjacent gray cement floor under identical lighting conditions, which were on the order of 35 foot-candles. This resulted in an increase of 81% in the illumination on underlying surfaces and of 70% on vertical work surfaces, where a large part of manual industrial work is done. Shadow and dark spots were reduced, and seeing was made easier, more comfortable and more efficient, by reducing the contrast in brightness between the surrounding areas and the visual task.

For complete information about Light-Reflecting Floors, for wet and post-war commercial air construction, write for a copy of the 36-page booklet, "Light from Floors," Atlas White Cement, Division Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, N. Y.

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Expenses on a large white cement floor are easy to check. They're low, and they're paid off in many ways. Maintenance is easy—because cleaning is easy. And no more, provide working



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COMMENTARY

Allied Bombing of Fighter Plants May Bring Luftwaffe Nosedive

Heavy raids have crippled single-engine output and component factories at twin-engine fighter and engine plants with new 15th Air Force and more heavy British-based bombers joining fray.

When the Eighth Air Force began its daylight precision bombing campaign in August, 1943, there was much shaking of heads. Even those who wanted it to succeed as to round out the day-and-night combination with RAF's bomber command were dubious. We know now, however, that thanks to these early days of experiment at least one set of people were taking no chances. It was that very month which saw a group of aircraft factories established for the first in Poland (Poznan) and East Prussia (Marianburg), well beyond the range of the most optimistic estimates of American's Flying Fortress and Liberator based in England. The best-tested Focke-Wulf 109 single-engine fighter was to be produced and assembled in this area, with a peak output of 200 fighters per month by the autumn of 1943.

Drive on Fighter Production—Despite the fact that one of the main objectives of the Eighth Air Force was the destruction of the Luftwaffe, many factors conspired to postpone the main attacks on the fighter plants until late July, 1943. Among these factors was the drawing off of heavy bomber strength to North Africa; another was the high priority through the spring and early summer of U-boat production and repair bases. If the cannot otherwise restrict the but daylight attacks on the Nazi war industrial machine as a sort of opportunism based on forces available, state of the weather, etc., the following pattern should be predicted:

Early Week for the Night—After important attacks on Alvestra and Neuss in Norway on July 24, daybreak at Kiel on the 25th, a huge tire factory at Hannover on the 26th, the main campaign on the German fighter factories got under

way (some had been struck earlier, such as the Heinkel plant at Bremen). First on the list was the Ag-Flugzeugwerke at Oshersleben on July 26 (approximately 60 FW-109's per month), where despite heavy close-in, considerable damage was done. The next day the Arado Flugzeugwerke at Titow (Warnemunde) was tackled (another 60 FW-109's per month), and the damage was so serious that there has been little production there since, and the plant may be abandoned, according to latest authoritative reports.

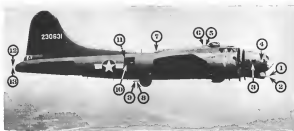


"FINEST EXAMPLE OF DAYLIGHT PRECISION BOMBING"

This official photo was taken by reconnaissance planes soon after a raid by strong formations of U. S. heavy bombers on Oct. 3 on the Focke-Wulf 109 factory at Marienburg, East Prussia. Gen. Arnold called this the finest example of daylight precision bombing. The plant was "entirely devastated."

On July 30 and August 1 the Fieseler Flugzeugbau at Kassel (estimated 10 FW-190's per month), but in turn, and some damage was inflicted. (The RAF hit this important industrial center twice in October dropping a total of over 2,000 tons of bombs, and wiping it all the map as a war potential, including the Fieseler plant and an aircraft engine factory).

Further Blows in October—This series of attacks in late July aimed at the production of some 150 FW-190's per month, the group around Marienburg, East Prussia, accounting for roughly 100 more at that time. The main assembly factory at Marienburg was one of the principal targets on the long range attack of Oct. 3, and Gen. Arnold has pronounced this probably the most successful precision attack of the war to date. Air Chief Marshal Sir Charles Portal described it "the most perfect example in history of the accurate distribution of bombs over a target." Every building of the Marienburg layout was damaged, many utterly destroyed. The plant will be out of production for some months, if not altogether abandoned. Another very heavily damaged target on this 100-mile, 4-pronged attack was the important



SECRET OF FORTRESS FIREPOWER

Here, for the first time, firepower of the Boeing B-17C Flying Fortress is shown graphically. Guns 1 and 2, in the nose deadly gun turret, and guns 3 and 4 are used by bombardier and navigator for frontal attacks. Guns 5 and 6 are operated by the first engineer in the power turret, gun 7, a top gun located midway in the fuselage, is operated by the first radio operator; guns

8 and 9 are used by the second radio operator in the tail turret against underwing attacks. Guns 10 and 11, in the waist positions, are used by the second engineer and the first radio operator to ward off lateral attacks. Guns 12 and 13 are used by the photographer and tail gunner to fight off enemy attackers coming in from the rear.

Focke-Wulf parts factory at Anklam, Pomerania, 90 mi. north of Berlin.

Newsweek Gets the Works—Germany's other standard single-engine fighter is the personal Messerschmitt 109. The newest model of this seven-year-old fighter is the ME-109 G and variants, equipped with the new Daimler-Benz 803 engine, which turns up better than 1500 hp. This is still the Luftwaffe's best, right up to date with the Lightning, Thunderbolt, Mustang and Spitfire.

In the 1,000-per-month program of single-engine fighters, roughly two-thirds of them were to be ME-109's and one-third FW's. The 109's are turned out in Regensburg, Weser-Neustadt and Leipzig, all being a considerable distance from bases in England. On Aug. 17 as a part of their first anniversary celebration of their initial daylight raid the Eighth Air Force sent out some 150 P-51's against the huge Messerschmitt factory in Regensburg, dropping about 300 tons of bombs and destroying more than 50 percent of the works, which had a peak monthly capacity of 250 ME-109's. Gen. Anderson, bomber chief of the Eighth, stated that the current production was about 200 per month. Through this devastating attack the August output at Regensburg was

all between 20 and 40 percent.

Hit Venus from the South—A healthy rock at ME-109 production had already been taken on Aug. 13 when mobile formation of Liberators of the Ninth Air Force made a 2,000-ton round trip flight from bases in Libya to drop their loads on the Weser-Neustadt Flugzeugwerke, 27 miles south of Emden, where between 200 and 250 Messerschmitt fighters are turned out each month. Heavy damage was inflicted, and August production may have dropped as much as 40 percent. A return engagement was staged on Oct. 1 when B-24's from Texas severely damaged the Heinkel Flugzeugwerke at Weser-Neustadt, which makes ME-109's trimmers, in an 800-ton round trip. Finally, as a lode-on for the newly organized Fifteenth Air Force under Lt. Col. Carl A. ("Toopy") Spaatz—organized set up for long range strategic bombing—its even larger attack on Weser-Neustadt was made, including both Focke-Wulf and Liberator, and the results were reported as by far the best of the series. The main assembly plant being demolished. The round trip was reported to about 1,400 miles, indicating that the big bombers may have stepped off at some of the newly improved airfields in Sicily or Southern Italy rather than

making the full return trip to Tunisia. The air craft around the Reich is getting smaller and lighter.

Leipzig at Last—The other important ME-109 factory is the Riesa-Maschinenwerke at Leipzig, where some 150 are turned out each month. On Oct. 28 the RAF gave this important industrial and transportation center near the Czech border six fast large-scale bombing of the war and the first at all for nearly three years. This vital cog in the Nazi war machine is sure to be high on the priority list of the new Fifteenth Air Force. The best way to visualize what these air assaults on German fighter production mean is to imagine how we should feel had our bomber planes would be thrown out at latter of long range Focke-Wulf 109's and Heinkel 177's should bomb and badly damage the big factories in Buffalo where Curtiss-Wright and P-47 Thunderbolts and Bell Aces are being produced, and the plants in Connecticut and Long Island turn out Vought Corsairs, Grumman Hellcats and Republic Thunderbolts, sharply cutting down our output of these vitally required fighter planes.

The Deadly Spin—With increasing combat losses (nearly 1,000 for October on the Western air front alone), coupled with falling produc-

tion (Gen. Arnold reported a decline in Germany's September fighter production, the first in more than a year), the Luftwaffe may be headed for a nose-dive or tailspin or something equally disastrous within the next few months.

Factories producing twin-engine fighters mounting rocket-firing weapons, long range cannon and mortars are also due for attention, as well as aircraft engine factories. The constant pounding of important fighter bases in occupied France and the low countries will continue the challenge to fight or be smashed up. The new threat from the south will spread the thinned-out fighter defenses thinner than ever. The present air battles are terrific, but our bombers are getting through.

With increased long range fighter protection and sufficient equipment to pull off two or more important missions simultaneously on widely dispersed targets, the enemy fighter opposition is being weakened still further.

The day will come when we can bomb any part of Germany almost



PLASTIC "MAN" AIDSAAF:

This plastic "man" being fitted with a winter flying jacket is one of several mannequins used by the Aero-Medical Laboratory of the Army Air Forces at Wright Field for fitting clothing and equipment and for determining proper construction of airplane cockpits and hull forms to accommodate various postures.

or will. When that day comes the end of the struggle in Europe will be in sight.

—NATHANSON

Knox Praises NACA

Paying tribute to the work already contributed by the National Advisory Committee for Aeronautics in the development of modern fighting and bombing planes, Secretary of the Navy Frank Knox last week said that the development of an aircraft capable of vertical dive bombing was made possible only from research by the NACA, which determined the pressures over the lifting and control surfaces of airplanes and how those forces changed in going through the pull-out at the end of a vertical dive. **Pruders Wing Studies**—Knox also gave NACA credit for development of basic fundamentals such as NACA wing sections, cooling methods and high lift devices, which he said had made possible the Corsair, Wildcat and Hellcat as well as most other aircraft flown by the Navy.



AERO-MEDICAL LAB PASSES RESEARCH PROJECTS:

Pictured here are scenes from the Army Air Forces Aero-Medical Laboratory at Wright Field, where scores of projects are under way constantly to improve flight conditions for personnel. At left is the cold weather chamber with its huge vault-like door. Here, wearing oxygen masks and cold weather flying gear, stresses resist to various high-altitude conditions. Shown at



right is a soldier simulating actual physical exertion of a flyer as he pedals a wheel while wearing an oxygen mask. An officer checks the regulator to determine the mixture of oxygen and other gases being expelled by the apparatus. He also can determine whether the streams is receiving enough oxygen from the present regulator.



Out of Great Emergencies . . . New Leaders Arise

AMONG men arise always new leaders when we meet the challenge of great emergencies. There are the men who deny the "can'ts" and the "impossibilities" . . . who defy the impossible.

There were several such "impossibilities" in the aluminum industry, before Paul H. Reynolds was "impossible" that America was made could ever exceed what was then considered a huge natural production capacity . . . or that aspects of foreign business could be merged . . . or that our buyers could be moved into greater aluminum.

But fast back in 1945, a single company challenged all those of those "impossibilities." Reynolds, then the world's largest aluminum had producers, took a huge new place in Alabama . . . began mining domestic ore . . . and deliberately began to promote his grade house. Today this is the only place in

the U.S. where bauxite comes in at one end, and aluminum sheet rolls out the other!

At war time, the huge demands of the government became apparent to the most important. But Reynolds kept on meeting problems. From earth to aluminum sheet was one step. They dared the next step . . . earth to sheet in finished enough form. Now Reynolds finds endless streams of surface parts to assembly lines throughout America.

And there it even goes to this day that the greatest production of aluminum is not aluminum alone and finished aircraft parts. The largest one continuous machine-made product as well as quantity . . . they must be made ever lighter and stronger. Reynolds is no longer engineering to manufacture new types of machinery. Further "impossibilities" will be conquered in Reynolds' steady progress toward Leadership in Aluminum.

REYNOLDS ALUMINUM

OUT OF THE IMPOSSIBLE INTO THE BEST

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26 PLANTS IN 13 STATES
AMERICA'S NEW SOURCE OF ALUMINUM



REMEMBER THE "SOUTHERN CROSS"?

CAPTAIN Charles J. Kingsford-Smith on the morning of May 31, 1928, flew the *Southern Cross* off the runway of the Oakland Airport and headed home for Australia. Eight days later his tri-motored Fokker monoplane landed at Brisbane after a three-legged trans-Pacific hop of 7962 miles.

"This trip," according to the *New International Year Book*, "was notable for the accuracy of the navigation and the fact that the radio operator was constantly in communication with other shore stations or ships throughout the flight."

The transmitter then aboard the *Southern Cross*, and now on display in the Smithsonian Institution, was designed by Ralph M. Heintz, co-founder of Heintz and Kaufman, Ltd. Its signal on 33.1 on 33.5 meters never faltered during the 83 hours and 19 minutes of flying.

The experience gained by Heintz and Kaufman, Ltd. while pioneering remarkable events in radio history is reflected in the Gammatron tubes today serving the military, naval and air arms of the United Nations. The efficiency of modern Gammatrons at high frequencies, their long operating life and high stability, spring from 17 years of continuous and often brilliant research and development by Heintz and Kaufman engineers.

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LEADERS IN ELECTRONICS YESTERDAY, TODAY AND TOMORROW

AIRCRAFT PRODUCTION

Surplus Engines, Propellers May Equip Post-War Commercial Planes

Even though many warcraft won't be adaptable to peace operation, huge stocks of accessories will be, industry engineers say.

By BLAINE STURBLEFIELD

The extent to which surplus warplanes can be used commercially after the war is controversial, but there is no doubt about engines, propellers, instruments, valves, pumps, electrical devices and a long list of accessories and manufacturers' appliances down to the nut and bolt categories.

This important equipment for public reason has not received the publicity that airplanes have been accorded in discussion of post-war surplus materials, but manufacturers are frantically worried about the situation.

Use of Warplanes—Although most of the concern has revolved about the usefulness of warplanes, overstocks of equipment which could be installed in new post-war commercial planes might glut the market for many months after the war.

Discontented engineers say there is no reason why military aircraft engines cannot be used commercially. The entire range of desirable commercial sizes will be available. Their military power ratings, which are very high, would be cut back for safety and economy in civilian use, but that would be paper work.

Private Planes—Many trainer type engines would be suitable for power private planes like the General Motors Allison and Packard's Ball-Beyon Marlin would be limited, probably to in-wing installation.

In the last four months of 1941, more than 20,000 engines were delivered, about half of them trainer types and the rest trainers. The production of trainers drops back to a third or a quarter of the total, which results in six figures annually for 1942 and 1943. If the war goes on through 1944 at the present rate, and if engine output is not reduced, over 300,000 to a half million of them will have been delivered. No one can say how many new and

usable units would be on hand at the close of hostilities, but it would be enough to supply American aviation even the world, for a long time.

Program Assured—Even if some persons, in or out of authority, have definite ideas as to what to do about this staggering inventory of surplus power, it doesn't mean anything until government and industry have agreed on a program. At least two

bills have been introduced, providing for disposition of surplus war equipment. One was HR 2008, by Rep. Clarence Lea, of California, setting up a director under the Civil Aeronautics Board to dispose of surplus warplanes. Dr. Edward P. Warner, vice-chairman, declared against it, and the chances are it will die in a pigeon-hole.

The other is S 1478, by Sen. James E. Murray, of Montana, providing for disposition of war materials across the board. It probably will fail because it puts all cuts and dogs in one sack, and because it gives one administrator too much authority.

Propellers—The post-war picture for propellers is substantially the same as for engines, except that some blades specially shaped for rapid climb and other special military functions might be serviceable with some change, or not used at all. But there will be an enormous supply available for replacement use or other disposal, depending on the will of Congress.

Some state holds for many parts and accessories. Wartime inventories



GIANT TEST CLUB PROPELLER:

Gruza-Stone, Inc., is now delivering giant four-bladed test club propellers to leading aircraft engine companies and the Army Air Forces. The model shown, of 22 diameters, has been designed and produced under military contract. The blade has nine or 10 sections. Shown is William R. Stone, vice-president of the company.



BOEING CALLS IT THE B-16½

This port-house, port flying Fortress is the engine run house at Boeing. It is used to help crews ground crew and also as a flying school for pilots who already know wings. The "robies" resembles a complete Fortress cockpit with all instruments. In addition to a place for pilot and co-pilot there are seats for ten others. The structure is complete with engines, propellers, all installations, controls and instruments.

widely interchangeable, of the highest quality, will have to be dealt with.

Post-War Effect—One point of view is that we are fortunate to come out of the war with these large supplies of good goods. The other that if they are thrown on the market, manufacturers and their employees will be out of luck. Producers of ships, some types of trucks, machine tools, refrigerators, furniture and scores of other items are all in the same boat with the aircraft industries.

Engines, propeller and accessory supplies might last for years, engineers say, unless new designs make goods in short supply, rendering them worthless. Such improvements are not now in view.

What happened after World War I is no guide to follow this time. There was no aircraft industry then, except the war industries, which expected to fold up with the armistice. The operations industry started with surplus engines and planes as its only source of supply.

Engines—American engines then were liquid-cooled. Many thousands of Liberator and CX-15s were in use, at \$100 to \$300 each. Consequently, a few of the beautiful liquid-cooled engines of this war

could be used in high-powered boats and small vessels. It is difficult to think of anything to do with a big radial engine except fly it or melt it down for scrap.

Little can be said now about the debatable post-war use of military airplanes. Some operators have said they don't want to convert Army's cargo and troop planes. They may change their minds if and when they see the price tags. Their other choice will be new planes of substantially the same design for three five or more years. At least two A-1 squadrons have DC-3s flying around for several years after peace day.

Plane Schedules Met By West Coast Firms

Costs needs 15,000 men to maintain level, says production council chief.

For the first time in five months, West Coast airplane plants were able in October to meet military production schedules. Whether they will be able to continue "on schedule" reports will depend, they believe, on solution of their manpower problem.

"We still are short 13,000 workers," said Claude Ryan, president of

West Coast's Aircraft War Production Council in a conference of Council members and West Coast Aviation Writers.

Rejuvenated—While Boeing in Seattle has experienced a decided net gain in manpower, the California manpower improvement in the past few weeks has been slight—over-fifth of one percent.

Even the California gain has cheered southwestern factory heads, for the previous report showed worker "gratia" exceeded "trans."

Five-day Week Stalled—Western factories have not yet determined the extent to which they can adapt, with hope of increasing production, the ten-hour five-day week requested by Charles R. Wilson, executive vice chairman of the War Production Board.

They do not believe that jumping from a 40- to a 50-hr week necessarily will improve production to the extent that they can forgo the 11,000 more workers they declare they must have by Dec 31 to meet military demands.

Machine Equipment—Factories with an abundance of machine equipment might use the ten-hour day to advantage. Others, with less machine equipment, now keeping machines busy 30½ hr a day through three shifts, obviously will suffer "machine time loss"—and production losses—under the Wilson proposal.

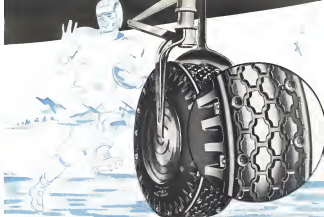
Western reaction to the 50-hr week proposal has been unique as that the west's Aircraft War Production Council considers it too complex to handle as a body. AWPC as a group will not respond to Wilson's request. Factory members will consider it on the basis of its practical application to the individual factory.

Better Sound-Proofing

New Vibron, made of asbestos, reduces plane noise and vibration, U S Rubber Co says.

Development of a new sound-deadening material which engineers believe will go far to alleviate conditions that threaten airplane crews with impairment of hearing has been announced by Herbert R. Smith, president of United States Rubber Co.

The new product, known as Vibron, is made of asbestos and other non-asbestos materials. It serves both to deaden sound and lessen vibration. Smith said the only other known material comparable for this purpose is planes at sea, the major



CLEATS FOR FROZEN FIELDS

HERE'S another outstanding Firestone contribution to flying safety—the Firestone CLEATED Channel Tread Tire! Already widely acclaimed for making possible landings and takeoffs on soft, muddy fields, the Firestone Channel Tread Tire now adds to its accomplishments safety in high speed landings on dangerous, icy surfaces. Sturdy, built-in, steel disks with sharp edges dig in and take hold immediately on impact of landing to provide positive traction on the smooth ice.

Of added importance, these skid preventing cleats may be inserted or removed in a matter of minutes. Tests

under the most severe operating conditions prove definitely that the Firestone Cleated Channel Tread Tire provides performance superior to any other ice tire.

This is only one of a long list of Firestone contributions to aviation. And whether your problem is one of development, design or volume production—whether your requirements are made of rubber, metal or plastic—a Firestone engineering representative is available on request.

Shown at the Port of Phoenix with Richard County and the Phoenix Skyway Building. Ready delivery over 25,000.

Firestone

AIRCRAFT COMPANY



HUNTER HEATERS MADE FOR RAPID WATER HEATING

Automatic Gasoline Burning
Models Designed for Mobile
Service Units

CLEVELAND, OHIO—A gasoline burning water heater that will supply water at high temperatures, and that is capable of economically maintaining a constant supply, has been produced by the Hunter and Company of this city, makers of Hunter Universal Gasoline space heaters.

Two models are in process available. One is a portable unit with a 100-gallon pressure tank that is suitable for connection to any plumbing system. The other is a 100-gallon unit with a gravity type tank, designed to house a constant supply of water in a house. This heater is meant to be permanently installed in any kind of mobile service unit where there is constant need for hot water. It features a tank, and may be filled through an open tank to the top, or connected to a hand pump or to a pressure water system.



New automatic Water Heater

In heat exchangers, the heating element is a Hunter Universal Gasoline burner, with "Shield" in front, which is adapted to an immersion unit. The most safe burner, with no possible leakage of gas, is immersed deep in the liquid to be heated. Constant recirculation is obtained by means of heating and facility of automatic control. The unit principle has been used by Hunter to speed up the process of drying clothes, and has been used by other firms to speed up the process of drying clothes.

These advantages, combined with the fact that the Hunter burner operates on any kind of gasoline, from truck fuel to kerosene, give Hunter Water Heaters an almost unlimited range of application in mobile photography, laboratory or hospital units, in field service units of all kinds. It is important to be able to have an extremely simple and effective means to supply hot water.

More complete details about Hunter Water Heaters and their applications may be obtained from Hunter and Company, 1540 R. 17th St., Cleveland, Ohio.

1,000th Cornell

Employees of Fleet Aircraft Ltd., Port Hope, Ont., in celebration of the completion of the 1,000th aircraft type, are working extra time and donating money to present an extra plane to the RCAF. It is the 1,000th aircraft built in a year; the 1,000th craft built since the plant opened in 1933; the 1,000th plane delivered since the war began.

supply of which has been cut off by the war.

50 Percent Lighter—Vibronite's usefulness, however, extends far beyond that of miles. Smith said, "because it is as much as 50 percent lighter than steel, and consequently larger areas of planes can be insulated. Moreover, many planes which heretofore had to sacrifice all noise dampening and vibration dampening in the interest of lightness can now meet the hearing of their crew through the use of the new material."

Smith said mass production of Vibronite is now in progress and its use will be confined to war purposes for the duration.

Spare Parts Make Up One Douglas Out of 19

Cost plant reports production of 3,500,000 lbs. of parts monthly.

For every 18 A-29 bombers that fly from the flight ramp at Douglas Aircraft Co., one more bomber goes off in packages, according to R. L. Paster, parts control division manager. Three and a half million pounds of spare parts monthly, excluding engines leave Douglas' Santa Monica plant alone, for the A-29.

Weatherproofed—Packed in weatherproof containers, approximately 8,500 separate replacement items, from weather to winter wear, ground tools and landing equipment are shipped off for the A-29 Boston Bomber, providing for a year's maintenance. Transport Aircraft Corp. is the C-34, 40-engine carrier spare parts for two-year service, about 10,000 items in addition to ground tools and handling equipment.

Porter pointed out that before the 100th anniversary was celebrated on order.

4,200 New Employees Ease Boeing Shortage

Johnson predicts production will be ahead of schedule by year's end

Boeing Aircraft Co., which was beset with one of the tightest labor markets in the country a few months ago, reports net gain of 4,200 employees in September and October.

G. C. Johnson, Boeing president, said action of the War Labor Board Sept. 4, authorizing installation of a job valuation program and greater differentials for night shift work, brought wide increases to some 85 percent of Boeing personnel and resulted in an overnight step-up in recruitment.

Aids Plane Output—The increased employment during September and October was an important factor in production of flying fortresses, which set an all-time record for October.

"It is possible now to predict," said Johnson, "that our production will continue to increase and by the year's end will be well in excess of the goal set by the War Department in accelerated monthly deliveries."

Need Continues—Boeing officials said there will continue to be a need for a large number of additional employees in order to meet future schedules, however, and to enlarge the personnel of the Renton plant and to fill normal replacement needs. Present requirements are largely for reserves' assistance.

Boeing production, after a long period of steady acceleration reached a peak in May, 1943, and remained fairly constant at that level through June, July, August and September.

Satisfactory Plans—Future production will reflect the company's new branch plants' progress comprising six newly established satellite factories in western Washington to handle subassembly work.

The recent employment upswing at Boeing in which wage increases contributed materially, also was influenced by an intensive community-wide Chamber of Commerce drive and assisted by an Army-sponsored outdoor war machine attended by more than 60,000 persons. In addition, Boeing brings troops operated in the mid-west and south and signed more than 2,500 workers for Seattle. Fifteen hundreds of these were on the job by Nov. 1 and are included in the net increase of 4,200.

Geuting Sees Big Problems Ahead For Personal Plane Manufacturers

Head of Aero Chamber committee says easily operated, safe and economical lightplanes can be produced but declares industry faces challenge in meeting all requirements.

Problems confronting the small or light airplane manufacturer—much discussed and much written about—are clearly defined in a discussion of the background of the formation of the Personal Aircraft Committee of the Aeronautical Chamber of Commerce.

Fallacies in some reasoning and realistic factors involved have been outlined by Joseph T. Geuting, Jr., chairman of the committee and vice-president of the Aeronautical Chamber of Commerce.

Problems—He points out that many persons would have you believe that the problems of the so-called personal aircraft manufacturer are going to be relatively easy to solve; that a ready-made market will exist; that the facilities of this branch of the industry will convert most easily; that the types of aircraft involved will be most easily reduced and produced.

Job To Do—"Management, labor and capital must work together to produce a product which the public can buy economically, learn to operate easily, fly with the greatest possible safety, and at a low cost per mile.

"It isn't so simple," he added, "but we can accomplish it and thus build a business with almost unlimited possibilities. We can do it—and scientific development is certainly making it possible within the near future, if not now. The manufacturer will have a product which the distributor and dealer organizations can sell, which the service organizations can serve and which the public can buy and operate."

Start from Scratch—Geuting discussed statistics on post-war aviation, noting that they can be either helpful or deceptive, depending on their application and interpretation, and said the unknown factors in available statistics greatly outweigh the known factors. Personal aircraft business before the war was so small "we may well say it was going to start from scratch, and that we have a large and most intriguing potential."

Big Expansion—Geuting pointed out that wartime expansion by

manufacturers of the smaller and lighter planes has been proportionately as great as that of the builders of big bombers, fighters and transport planes.

NAA Speaker—Geuting spoke before the National Council of American Aviation Planning, sponsored by the National Aeronautic Association at Oklahoma City.

Asks More Airfields—He called for cooperation with the government in development of adequate landing facilities for all types of aircraft, particularly those in personal use, and in attaining "constructive regulatory rules which experience will show are in the best public interest."

Can't Depend on Government—He pointed out that aircraft for personal use will have to compete with the particular appeals of various forms of transportation and said that "the glamour of flying has sales appeal but we cannot make a business out of glamour."



BOEING'S NEW PORCUPINE DIE

This giant hydraulic press is capable of packing 200 meeting holes in a single stroke. It is a new Boeing-developed die turning car parts ready for meeting 38 times faster than previous methods. Parts made by the die are riveted together to form the bomb bay casings of the Flying Fortress. Shown is John Croft, of Boeing's tooling department, who developed the porcupine.

"Airplanes are just another form of transportation," he added. "Personal aircraft in production must have utility, and utility means much more than just the aircraft. It means many and convenient landing facilities, simple, easily understood and unhampered regulations, and practical weather and navigational aids." **Hypotheses**—He hypothesized:—The opportunity for the manufacture and sale of personal aircraft and the development of many related industries will be without precedent.

"But there also comes on the post-war horizon," he said, "the opportunity to find members and to disapprove the millions who will be patiently awaiting the coming age of flight."

AC Builds Bombsight

Spaulk plant company uses volume production on new mechanism.

Manufacture of a British-designed bombsight is now in volume production by the AC Spaulk Plant Division of General Motors for use on British constructed and land-based bombers.

George Mann, Jr., general manager, said the bombsight is especially valuable for night operations and low altitude bombing, as it permits maximum maneuverability of the

was En. Hugh L. Dryden, of the U. S. Bureau of Standards.

Ford Nash, formerly Washington representative for Bell Aircraft and widely known aviation writer, underwent an operation recently at Johns Hopkins Hospital, Baltimore, where he is convalescing.

John G. Day, traffic representative for Transcontinental & Western Air, at Indianapolis, has been promoted to district traffic manager, succeeding Howard Goodrich, Jr., who has been recently transferred to the Kansas City office as traffic training supervisor.

Lawrence H. Cooper, former director of field operations of Consolidated Vultee Aircraft at San Diego, has been appointed manager of the Hamilton City, Mo., division. He has been with Consolidated Vultee since 1943 and was once with the American Petroleum Co. as an engineer in charge of aviation lubricants and sales. He succeeds D. C. Barry, resigned.

New commanding general of the Caribbean wing of the Air Transport Command is Brig. Gen. Edward Harrison Alexander, since February, 1953, in charge of ATC operations in the Far East, Japan area; he was executive officer of the ferry command. He succeeds Brig. Gen. Vincent J. Malley, whose new assignment has not been disclosed.

William J. Larson, former Texas secretary of state, has been appointed special representative for Braniff Airways, with headquarters at Dallas. He will spend most of his time traveling to cities on proposed new routes for which the airline has applied to CAB.



RYAN AWARDS SERVICE PINS:

Two ten-year and two three-year service awards went to four executives of Ryan Aeronautical Co., San Diego, recently. Recipients lined up with president T. Claude Ryan (center) are (left to right): Will Vandermere, chief project engineer; Clifford C. Boyd, chief development engineer, received two-year pins; Ryan, G. B. Barlow, factory manager; and Eddie Malloy, vice-president in charge of manufacturing, received three-year pins.

Coen turned down by the RAF, Charles G. Petersen, who joined the AAF, at a point, has been made a colonel. At 35, he is probably the youngest colonel in the U. S. Army, having been transferred to the 5th Air Force when it was established in England. His record over Western Europe includes nine German planes shot down, seven probably destroyed and five damaged.

H. H. Hoshorn, former personnel director of Aeron Corp., Hollywood, Calif., has been appointed to the company's newly created post of director of industrial relations. He is succeeded by Charles Young. Charles Cooper recently was named plant superintendent.

Robert R. Eberline, has been named supervisor of TWA's traffic training staff. He has been traffic manager at Wichita and is succeeded there by Joseph P. O'Brien.

Two appointments were announced at the Naama plant of Sperry Gyroscopic Co. Walter Walter-Funk was named manufacturing engineering training leader. J. J. Strain was appointed assistant plant production control superintendent.

David Barash, for the past 15 years with Bendix Aviation Corp., died Nov. 5 in South Bend, Ind. He had served Bendix in various executive capacities. At one time he was a member of the board of directors and assistant secretary. For many years before entering the aviation field, he served as a manager in the automobile industry. He had been editorial director of Motor Age, Motor World, Automotive Industries and various publications, and was a past president of the Society of Automotive Engineers.

A newly organized division and electrical sales division of Goodspeed Tire & Rubber will be headed up by Thomas B. Ryan, assistant manager of the Goodspeed Research Laboratory, with

the company for 13 years. Other members of the new division are Robert B. Nelson, R. S. Scales and Robert Marshall.

Northeast Airlines announces three promotions, effective immediately. John T. Goffe, becomes operations manager for both the Atlantic and coarseral divisions of the airline; Howard D. Haple is named vice-president in charge of engineering and maintenance; and John A. Basso is appointed director of Northeast Airlines' pilot training division at Burlington, Vt. Goffe joined Northeast in 1953, chief pilot. Haple joined the line in 1941 as maintenance superintendent. In 1953, when he was maintenance superintendent of Northeast Airlines, he won Aviation's Maintenance Award, a coveted prize, on the basis of keeping more airplanes and more engines functioning than any other air transport operation in the world. Basso, formerly was affiliated with Continental Airlines at Denver.

A. Roy Jones (left), assistant personnel director of Transcontinental & Western Air, has been named assistant to V. P. Conroy, traffic vice-president. He has been with TWA for twelve years. Conroy's assistant sales manager was Chas. E. Falleria (center), director of traffic training, previously district manager at Los Angeles. He is succeeded by James F. Marshall (right), field representative on the training staff, also district manager at Philadelphia.



The new secretary-engineer of the Maryland State Aviation Commission is Mrs. Paul N. Barwick, commissioned by the Maryland State Guard. Also appointed to the Commission was William Kenneth Ebel, vice-president of Glenn L. Horton Co., in charge of engineering.

A newly created post of assistant to the Central Region manager of TWA went to Vance L. Goss, district traffic manager at Dayton, formerly in the same capacity at American, Tex.

A newly created post of assistant to the Central Region manager of TWA went to Vance L. Goss, district traffic manager at Dayton, formerly in the same capacity at American, Tex.

Col. Gave, former executive vice-president of Douglas Aircraft and an engineering test pilot, has been promoted to lieutenant colonel and is serving at Wright Field as officer in charge of all installations. He succeeded Col. R. L. Evers, now assistant chief of the production division.

THE NEWS VIEWS—



Robert James Marshall

At 37, Robert James Marshall is just in High School, made his first solo flight. It was in a hydroplane on Puget Sound.

Now at 45, he is graduate and general manager of Ryan Products Co. (formerly Puget Engineering Service Co.), Cleveland, and also of McCulloch Engineering Co., Milwaukee, both divisions of Borg-Warner Corp. Though almost 30 years in aviation he must have a veteran as age is reckoned in the business, and behind me feet of length and 200 lb. of brown is a powerful symbol of youthful energy and dynamism.

Worked for Boeing—Marshall started to work with Boeing Airplane Co. in 1942 on a part-time basis while attending the University of Washington. Starting as a blazer clerk, he worked up to vice-president in charge of engineering and a member of the board of directors in 1949, he left to join Pease.

Several important aircraft developments are credited to Marshall. He helped design the first flying boat used in international air mail service. He supervised the engineering of the first jet in 1950, which featured the revolutionary low-wing cantilever construction and retractable landing gear. He directed development of the D-11 in 1953, first American four-engine plane.

His awards include the Wright Brothers Medal in 1951 for outstanding contributions to commercial aviation and, in 1948, the Mackay Memorial Trophy presented by the government of New Zealand for his contribution to the safety of air travel with special reference to ocean aviation. Marshall is a member of The Beta Phi and Sigma Xi, honorary membership societies, a Fellow of the Institute of Aeronautical Sciences and a member of the Society of Automotive Engineers.

Products Co. is a major producer of aircraft pumps. McCulloch Engineering, a relative newcomer to the aircraft and automotive field, manufactures small, light-weight, low-weighted types for aircraft engines and mixers.

FINANCIAL

Investment Service Takes Cautious View of Airline Stock Prospects

Moody's recommends two selected issues but investors are advised to be conservative; CAB developments are not included in survey.

By ROGER WILCO

The airlines received special treatment in a recent issue of Moody's Stock Survey.

Investors are cautioned "not to proceed hastily from an industry outlook of spectacular expansion to purchase of any stock representing an air transport company." The presence of growth of air line service, national and international, will spread over a fair portion of time. While offering stock investment in the early period of development of a new and growing industry are always "doubtful."

Discusses Future—The position of the industry is discussed in very general terms. The investment service was so tentative or mathematical in its approach to estimate the future growth of the volume of air passenger and freight traffic. The great advantage accorded air transportation in speed. This is represented as being opposed by several factors: Higher costs, greater "heat of collisions" and the immediate inability to develop a well-integrated feeder system.

The speed and cost elements have, of course, been recognized in their proper perspective by all sound aviation observers. But there is one thing new in Moody's belief that "profit margins are likely to shrink due to new regulations, voluntary and under government pressure, but both passenger traffic and volume of freight shipments should increase at more than compensating rates. . . ."

Brief Mention of Foreign Routes—The competitive position of the group, in both the domestic and international fields, came in for a brief mention in the analysis.

The investment service concludes its review with the observation that "Price stability in this type of holding-investor situation is largely a function of the development of competition, domestic as well as international,

the trend of costs, the need of technical development, the degree of governmental control and the allocation of new routes will play their part in producing profits while providing in air transport stocks over the period ahead. But the certainty of large scale growth in service and facilities and the negative position of the carriers whose stocks we have selected for purchase suggest that the eventual results of current investment in this industry are not satisfactory."

Two Stocks Suggested—With the usual qualifications found in investment practice, the two stocks recommended are Eastern and Pan American. Nothing specific is said of any of the other airlines. What is made of Eastern's New York-Miami route. It is asserted that Eastern's present routes give it good protection against possible competition for north-south traffic on the east coast. With no industry analysis about the CAB estimates of May, 30, 1949, recommending that National Airlines' service be extended from Jacksonville, Florida, to New York City. Should the full board approve this recommendation, Eastern will be faced with active competition all along the Atlantic seaboard and will lose its existing favorable position.

Speaking of Eastern, J. S. Bachus & Co., a N. Y. stock brokerage firm, in a market report, also takes a favorable view of Eastern and estimates that the carrier's profits this year may reach \$2.40 a share, which would be the highest for any year since Eastern's inception. This prediction merely doubles the results for the six months ended June 30 when the company earned \$2.15 per share. No adjustment is made for the seasonal characteristics of Eastern's operations nor of its higher cost structure. Such a forecast has adjustments make the \$2.40 estimate a highly optimistic one.

▶ **PAA Studied**—In suggesting Pan American Airways' Moody's says that the company's position appears strong since the outlook is for a good deal more international competition for trans-Atlantic than for trans-Pacific traffic.

▶ **Trade Agreement**—The trade agreement is a considerable question when viewed in the light of pending applications for international routes indicated by domestic and foreign carriers. Further, these air services across both the Atlantic and Pacific are being opposed by interests who have access to the resources necessary to do the job. Of course, their ultimate success in entering the field is far from assured, but the threat exists and can hardly be ignored.

▶ **Forecasting Is Problem**—Forecasting future investment trends is never an easy task—particularly for an industry as unpredictable and volatile as air transportation. On Oct. 16, 1945, Moody's study of the "boom" from airline expansion as a group does not promise to be of significant importance as an investment... over the more immediate future... A diversified list of airline stocks qualifies for retention on the basis of the excellent long-range (post-war) outlook for the industry, but the present is not regarded as an opportune time to enter that industry with new funds."

Recently there have, airline stocks experienced one of the sharpest appreciation gains in their history.

▶ **Gains Unchecked**—Moody's was not alone in its adverse prognostications. Other investment advisory services took the same tack and were equally wary.

All this merely proves that there is no assurance of picking a sure thing in the market, least of all among the airlines. But it is a useful pointer of great uncertainty that substantial profits are made and serve as a compensating consideration to the high risks inherent in the investment status of the group.

Financial Reports

▶ **Thompson Products, Inc.**, registration statement filed with SEC covers proposed sale of 45,000 shares or \$4,500,000 of cumulative preferred stock, subject to approval of holders of the prior preference and maintenance of a dividend called for five years in Cleveland.

Proceeds would be used to retire the present outstanding convertible prior preference stock and to pro-

vide additional working capital with a view to possible requirements. There are 26,000 shares of the prior preference stock outstanding.

▶ **Ford Motor Car Co.** reports consolidated net profit of \$3,039,374 after charges and provisions of \$15,163,993 for income and excess profits taxes after deduction of \$1,676,360 for postwar tax refund for nine months ended Sept. 30.

The net is equal to 20 cents a share on 15,859,890 shares of capital stock. This compares with a net profit of \$2,272,370 or 21 cents a share for the nine months ended Sept. 30, 1942, when federal tax provisions amounted to \$4,216,008.

Sales net billings for the first nine months of this year totaled \$31,478,420 as compared with \$19,377,478 in the same period in '43.

▶ **Borg-Warner Corp.** and subsidiaries report for nine months ended Sept. 30 showed net profit of \$1,345,355 after depreciation and provision for \$40,628,444 for federal and Canadian income and excess profits taxes—subject to audit and year-end adjustments.

The net is equal to \$3.35 a share on 1,233,728 shares of capital stock outstanding. Current assets as of Sept. 30 were listed as \$191,176,132 and current liabilities after deducting \$19,293,422 of U. S. Treasury tax notes from the income tax liability were \$164,882,710.

▶ **Delta Airlines** for the year to June 30 reported net income of \$400,987, or 10 cents a common share against \$308,000, or 30 cents a share in the preceding fiscal year.

Northrop Aircraft, income for the year to July 31 reported net income of \$1,344,245 as compared with \$1,043,741 for the same period in '43.

National Airlines Stock Data Shown

Annual report lists holdings by directors and salary figures.

Annual report of National Airlines, Inc., of Jacksonville, Fla., for the fiscal year ended June 30, 1943, shows G. T. Baker, president of the company owns 43.18 percent of its common stock, representing 100,442 shares, as of Sept. 30, 1943.

Lehman Brothers, New York, was the next largest owner of common stock with 25,194 shares, or 10.11 percent.

▶ **Other Shareholders**—The balance of 133,654 shares was owned as follows: H. S. Parker, Jr., vice-president, 12,250 shares; William K. Jacobs, Jr., director, 1,799; R. J. Ke-

shave, vice-president, 530 shares owned jointly with G. T. Baker; D. G. Bush, treasurer and director, 493 shares owned jointly with G. T. Baker; H. R. Playford, director, 1,686; Paul Poyner, director, 100; J. A. Wademan, director, 254; L. P. Foreman, secretary, 33 shares.

The report showed the highest salary paid during the year went to G. T. Baker, \$18,000; R. J. Keeshave, \$11,790; and Joseph Bailey, \$10,705.

Masefield Revises Stand on U. S. Planes

Arch critic at beginning of war returns to American peace cause, bombing.

Peter Masefield, editor of The Aeroplane, British aviation magazine, who at the beginning of the war led British press criticism of American air power, pays high tribute to the quality and performance of our aircraft in the current issue of Consolidated Value's magazine Plane Talk.

His reversal of opinion follows a tour of aircraft plants in the United States and a close acquaintance with American warplanes in combat.

▶ **Devoted**—"At one time," Masefield says, "we in England did not realize the potentialities of American prewarplane bombing by day, just as we in America have not realized what could be achieved by night area-bombing as practiced by the RAF. Now that we have experience of each in combination side-by-side we realize that the two objectives, though originally designed to go together."

Masefield said that as months went by, after the arrival of the first American planes in Britain, "American aviators fulfilled his promise. It began to show its quality in action."

He mentioned that by the time our planes begin to flow across the Atlantic to Germany, "the German air force against the German submarines had begun to take a more serious turn and 'once again American airpower came to the rescue.'"

▶ **Leads Liberator**—Masefield said that "having had the pleasure and encouragement of watching these planes with their greatly increased momentum flowing from the factories at San Diego, Port Worth, Dallas and Willow Run, I am convinced that they will carry out their prewar role combination of day-bombing qualities yet concentrated in any day bomber which has yet reached the stage of active service against the enemy."

Development of overseas air cargo traffic after the war will warrant the required effort despite bulk international trade prospects attributable to rehabilitation needs, the imbalance of the national export-import trade, and rate differentials between air and surface carriers.

This is the studied, conservative conclusion set forth in a preliminary survey by Dr. Lewis C. Sorrell, research and planning director at the Air Transport Association. Representing his views only, and substantiated with his own tables, the study has been sent to a panel of air operations executives by the ATA, with the comment that it has not been examined by the association or its members.

▶ **Other Reports Planned**—Similar reports on passengers and mail are being prepared and will be made available to the public. The study also covers foreign trade data, detouring commodities and countries of origin or destination, rates, weights and charges, listing hundreds of items of the source of the data. The study from books, reports and tables through clothing, drugs, jewelry, mixed instruments, live animals, food (fruit juices to produce and) and other items to switches and vacuum cleaners and X-ray equipment.

"Allowing for the impossibilities in the international statistics which will affect the time required for the statement of expenditures," he writes, "there is a potential overseas air cargo traffic that is worth the effort required to develop it. It may amount to 30,000 to 75,000 tons of various commodities per year each way, in both the import and export trades, when sufficient order has been restored to permit the usual course of world trade. That period of time is conceived to be within seven to five years after the termination of the conflict."

"While the revenues obtainable from overseas air cargo will probably be far below those resulting

TRANSPORT

Overseas Travel Revenue To Exceed Cargo by Big Margin, Study Shows

Air Transport Association's research chief, cites possible annual traffic flow of 50,000 to 75,000 tons each way three to five years after the war.

By MERRILL MCKEE



Dr. Lewis C. Sorrell

from the passenger business they will not be negligible, and they can be increased. This estimate includes no allowance for military air traffic which may accrue to the airlines, nor any for such rehabilitation traffic as governments may assign to the airlines more or less regardless of cost."

▶ **Work for Air Cargo, Inc.**—Dr. Sorrell starts his supplementary report by giving his preliminary and provisional study needed verification, the first three of which would be performed by Air Cargo, Inc., airline-sponsored agency to study freight transportation by air.

He proposes that trained investigators spend several months in obtaining from producers, importers and exporters data on the various commodities as particularly listed in his tables. He urges determination of types of service and kind of rate structures—such as express rates or classified freight rates—that should be developed, and advocates maintenance of the field studies, investigation of insurance requirements and methods of shipping and outside documentation, organizing pickup and delivery service in the

foreign field, and sales promotion at home and abroad.

▶ **Some Investigators Near at Work**—Some of these three steps, it is understood, have been initiated already by Air Cargo, Inc. Dr. Sorrell suggests a year and a half in the time limit for presentation of a program. To avoid duplication, investigators could cover similar as well as foreign areas, the data to be divided in a central office.

For his fourth point, he feels consideration should be given to what the airlines might rightfully request postwar rehabilitation traffic as a basis for making representations in the proper quarters at the right time.

▶ **Speed Please Factor**—Inevitably, the study indicates, speed will be the determining factor in comparison of air transport with surface competitors. Sellers of air cargo service must seek to capitalize on the direct effect of speed on the value of transported commodities to the user, plus such indirect effects that speed may produce upon marketing and distributive practices and costs.

The air cargo carrier has an advantage of from 6 or 10 to 3 on speed, but the ocean carrier's cost advantage, on the other hand, is 50 or 75 to 1, "even with airplanes flown to 1,000, and with costs of 13 to 15 cents per ton-mile."

Thus "the major question that arises is how much of a premium will the shipper pay for the high speed inherent in air service? And on what portion of the cargo will he be willing to pay it?" Furthermore, the speed advantage of the airline and cost advantage of the steamship both tend to increase with distance.

▶ **Costs Versus Value**—Explaining that "overseas delivery is primarily upon a flow of goods rather than high speed of movement," Dr. Sorrell warns that shippers are more interested in dependability and low cost than high speed and

Cargo Record

United Air Lines reports that in the first two weeks of its new cost-to-earn all-cargo service, record air mail loads have been received, as high as 200,000 letters and 6,500 lb of mail to a plane. Shipper assigned to the service is carrying about 100,000 letters and 100 lbs of freight—continental route, not including those to intermediate points.



AVIATION'S EDITOR Lester Smith, a noted one of America's outstanding aeronautical authorities. Early distribution of *Air* and *Aviation* in '36, Cessna's promoter of the industry's best services through his clear, forthright opinions.

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90

and acquisition of Mid-Engine Airplane for service between Boston City and Los Angeles, scheduled with the same date, 1945, 1946 and 1947. The same date, 1945, 1946 and 1947, also covers the acquisition of the same airplane, scheduled with the same date, 1945, 1946 and 1947, for the purpose of the acquisition (1947) involving the same date, 1945, 1946 and 1947.

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Canadian Pacific Pushes Plans For World Routes, Despite Obstacles

Seamship and aircraft operator banking on change in government policy to permit participation in postwar flying.

By JAMES MONTAGNES

Undeterred by the Canadian government's restrictive one-line attitude toward international air transport, Canadian Pacific Air Lines is pressing hope on a change in that policy and going ahead with plans for a bid in the postwar international field, however better the contract may be.

CPLA is a subsidiary of Canadian Pacific Railway, and is a wartime aviation body operating domestic Canadian air service throughout the Dominion's coastline. A brief line in CPLA's submission to the Canadian

House of Commons Reconstruction and Re-establishment Committee at Ottawa discloses the aim.

"To expand to Montreal—"It is the intention of the company," CPLA said, "to expand its air operations both within Canada and abroad as far and as fast as opportunities offer, consistent with government policy."

Of importance in this connection were recent developments in British steamship circles. The General Council for British shipping is seeking extensions from members interested in postwar air traffic for

presentation to the British government. Five companies in South American services have announced they will form a separate company to operate air routes between the United Kingdom, the Continent and South America, and there are indications that the North Atlantic steamship group and possibly the West African Oriental and Coastal groups also will follow the council's lead. Canadian Pacific Steamships is a member of the British Steamship Group.

Flourished Air Feasibility—CPLA—in its report to the committee, pointed out that it pioneered the service which later became the Royal Air Force Ferry Command, and has obtained invaluable experience in trans-oceanic air operations. It expects to participate in plans to expand air transport of first class mail, and forecast a new type of tourist and holiday traffic by air. It described itself as "The leading Canadian carrier of commercial air cargo."

Government Policy Restrictive—Canadian government policy now allows only the publicly owned Trans-Canada Air Lines to operate international air service from Can-

ada. This policy for the postwar period was utilized by Prime Minister Mackenzie King early this summer. While this basic view may not be altered by the present liberal administration or even if a socialist co-operative commonwealth federation comes into power in the 1945 election (the CPLA has been making big strides in the provincial elections this year), it still is possible that the CPLA may be called on to help establish some of the international routes.

Real Policy May Be Precedent—The peeling of railway services by the Canadian National Railway (which operates TCA) and the CPLA on a number of heavy traffic runs in eastern Canada since the early days of the depression—and still in operation—has given some weight as a precedent. Some shippers, however, pointed out that the situation were not analogous—that the two railroad lines already were established when the peeling occurred and that separate operation was uneconomic, while there is no such existing duplication in international air route policy.

Another precedent was seen in the fact that when TCA was started the CPLA was asked to share in the set-up, but turned the offer down. It is felt in some circles that there may be a dividing of routes operating from the Atlantic and Pacific coasts in some such shared plan. CPLA, because of its current north-south Ca-

nadian routes into the Arctic regions, may come in for northern international routes to Asia.

May Operate From Other Bases—And, it is speculated in aviation circles that if the CPLA cannot come in for a share of the international routes from Canadian soil, its financial set-up likely would allow it to operate air routes from England in competition with other steamship lines which will go into the global air transport field.

Whatever government announced policy may be in the matter, the fact remains that Canadian Pacific is one of the most powerful industrial forces in Canada. And, it is bound to have some influence on the Canadian Parliament. And it is in Parliament that Canadian National and TCA's government-owned as they are, must look for funds for any expansion program. It would seem, therefore, that CPLA's side of the bitter fight many expect to develop will not be ignored.

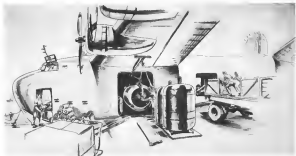
Canadianized North-South Search—Canadianized North-South Search—While it looks at times as the international air service problem, CPLA is understood to have applied for new domestic routes from North Battleford to Regina, Sask., and for local service with numerous stops between Toronto and Montreal, between which TCA runs five flights daily with a stop at Ottawa.

As far as can be learned, CPLA has not yet filed any international route application, and just how it will enter the postwar global air transport race it has not yet revealed. But CPLA officials frankly feel that some modification is due in the government's monopolistic state air line policy.

Operations started with men and women already in the service of the ten companies purchased. There were 430 at the end of August, 1943, and a year later their number had more than doubled to 1,304. If personnel at elementary flying training schools operated in conjunction with the RCAF is counted, the number now is over 3,000. Comparison of August, 1942, with August, 1943, shows that mailings for the month increased from \$26,300 to \$33,531; passengers flown from 4,450 to 9,730; passengers carried from 4,323 to 9,134; mail poundage from 67,888 to 150,356; and freight and express from 153,512 to 1,135,405.

More Canadian North-South Search—While it looks at times as the international air service problem, CPLA is understood to have applied for new domestic routes from North Battleford to Regina, Sask., and for local service with numerous stops between Toronto and Montreal, between which TCA runs five flights daily with a stop at Ottawa.

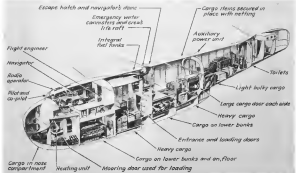
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NAVY INSTALLS DOORS IN "CORONADO" FREIGHTERS:

The Navy, having found the Coronado PB2Y patrol bomber adaptable to cargo, is installing new large cargo doors on the port side of all these aircraft. A Navy spokesman says the modifications are being made through modifications to avoid production delay. As shown in the drawing, complete engine unit can be loaded through the bigger doors. In addition to four of these heavy units below the wing, the plane can

carry several less of cargo in other compartments. The drawings at right is a cutaway of the interior of the cargo bay. With a range of over 3,500 miles and a cruising speed of 160 mph, the Coronado built by Consolidated Vultee at San Diego, also is used at times as combination cargo-passenger ship. Seats for 42 passengers can be installed, but the Navy reports that no Coronado is being used for passengers exclusively.



United Fruit Co. Asks Air Routes In South for "Integrated Service"

Transportation giant cites past experience in improving each new type of carriage, says planes are necessary to replace long shipping.

Unless it is permitted to establish and maintain a regular and dependable air service in the Caribbean area, United Fruit Co. cannot furnish a complete and integrated transportation service, the company says in a long-anticipated application to the Civil Aeronautics Board for permission to operate planes in the Caribbean.

Planning to use multi-engine planes, of an undisputed capacity, United Fruit wants to serve most of the points at which its ships call.

► **Routes**—Three routes are specified: 1) between New Orleans and Balboa, Canal Zone, with a permissive stop at Swan Island; 2) between the same termini, with stops at any one or more of the following intermediate stops: Merida, Mexico; Belize, British Honduras; Managua, Nicaragua; San Jose, Costa Rica; Quepos, Costa Rica; Alvarado, Costa Rica; 3) New Orleans to Guatemala City via Merida, Belize, Puerto Barrios, Puerto Cortes, La Lima, Toluca and Chica, Honduras.

► **Development**—In its application, United Fruit gave extensive details of its contribution to and development of the natural resources and agriculture of the countries it serves.



CANADIAN FREIGHTERS FLY AAF FEEDER LINE:

Canadian-built Mothbush Norcross high-winged transports, 100-tonners, are being used by the Army Air Force Air Service Command for feeder services between sub-depots and small stations to bring shipments to larger airports for transfer to big ATC transports. This plane, which made its reputation in the Canadian northlands, has a 300-hp Pratt & Whitney engine, metalizable patch propeller, units for engine or a pair of about 1,700-hp, and cruises at about 150 mph. It also was taken at Field Air Depot, Fort Totten, Alaska, Field, Alaska.

are returned to the company and adequate steamship service to this area restored. However, if this restricted steamship service is supplemented by efficient airlines, public necessity and convenience will be greatly served. United Fruit. ► **Partic-His Route**—With pre-arranging conference on the Latin American-Caribbean area applications scheduled for Nov. 15, another company with interests in this section also has filed with CAB. Caribbean-Atlantic Airlines, Inc., San Juan, Puerto Rico, which now operates between San Juan and Christened St. Croix, Virgin Islands, applied for a route between San Juan and Ciudad Trujillo, Dominican Republic.

They further asked that their application be construed as "for any new route or routes . . . which would be of benefit to the public in the United States, Mexico, Central America, South America, or any of the other Caribbean Islands."

Other applicants had asked for routes between Puerto Rico, which would be a major stop, and San Juan, Puerto Rico, and San Juan, Puerto Rico, and San Juan, Puerto Rico.

A multi-engine airplane was filed by United Fruit, Inc., San Juan, Puerto Rico, to carry passengers and baggage on the route between San Juan, Puerto Rico, and San Juan, Puerto Rico.

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Denies Route

Civil Aeronautics Board last week denied Eastern Air Lines a proposed service between Memphis and Chicago, Ill., to St. Louis, Mo., and Huntsville, Ala.

CAB's Secret Report

Analyst's survey of Canadian air relations stresses wide interest.

By BLAINE STUBBLEFIELD

If the Civil Aeronautics Board's recent report on Canadian air relations hadn't been marked "secret," there would have been less excitement about it in Washington. The document is a factbook, derived mostly from government statistics and from public documents of the board and the State Department. It suggests no factors in the air rights home-finding prospects that the airlines didn't think of last year. First public mention of the document appeared in *Newswatch*.

► **Valuable Book**—In this report the author, Selig Altschul, CAB analyst, covers in the first, leaving out the usual government clichés. The board and the other federal agencies, Congressmen and international officials, who now have it in hand, are finding it a valuable compendium of pertinent facts on which to base their own conclusions. The report was written months ago, but the board shied away from publication because, for one thing, Altschul is bullish on the hopes of some overtly optimistic operators. The board did not wish to be responsible for any over-the-border arguments.

Key to the U. S.-Canadian post-war rights of air transit is the unending succession of letters sent by transport operators. No matter how efficient the equipment and the fuel, costs can always be reduced by the use of additional fuel stops.

► **Great Circle**—The United States, Altschul finds, will want to operate on at least two "great circle" air tracks, one northeast to Europe and one northeast to the Orient. For some time to come, only the track to Europe will carry heavy traffic.

To profit by fuel stops, it must have bases in Canadian-controlled Newfoundland, Labrador, Nova Scotia. Canada's two air operators, Trans-Canada and Canadian Pacific, have world-wide aspirations of their own, some of which will conflict with those of the United States, to say nothing of those of British Airways itself. But the Canadian government will drive the best bargains it can.

► **Canada Will Need Rights**—Canada will want to fly to Mexico and South America and will require transit over the United States and Mexico. These British West Indies, TACA, and Canadian National, Canadian Airlines were not

CAL Gets Lodestar

Continental Air Lines received a Lodestar from the Army early this month, according to executive vice-president, Terrell C. Driskower. At a hearing in Washington, he said that within 30 days CAL expects some indication of how soon it may be able to start operations as previously authorized AM 80 from Denver to Kansas City.

CAB Makes Report

On Overseas Outlook

In an effort to obtain the most accurate possible information on which to base its postwar policies, the Civil Aeronautics Board has written a report on prospective postwar overseas passenger traffic. This report is so far available only to board members and some other government officials. Presumably it will be made public eventually.

► **Realistic**—Views of those who believe everything and everybody will take flight pretty soon are not borne out, but neither are the pessimists. For the postwar transport industry, CAB finds, certainly will not absorb the airplane output of very much plant capacity.

Recently the board released a survey of prospective overseas air mail, wrote a confidential report on U.S.-Canadian air relations, and is in process of analyzing a large batch of data collected during hearings on feeder line policy.

Caribbean Studied

A tour of the Caribbean area by CAB Vice-Chairman Richard P. Warner indicated Washington last week. Since before CAB policy on future routes will emerge soon.

Two of the five temporary permits issued by the Civil Aeronautics Board to airlines operating into Florida as auxiliaries to the war effort have been extended for three months only. The others, which have not started operations, presumably for lack of equipment, were allowed to expire.

► **Three Lines Not Ready**—All five expired Nov. 1 and were extended to Nov. 10. On that date, those to Express Aero Inter-American and Dutch KLM were extended three months. These British West Indies, TACA, and Canadian National, Canadian Airlines were not

Continental Hits Midwest Competitors

Driskower warns CAB small lines may be "gobbled up."

By BARBARA FREDERICK

In a strong protest against the possible grant of permission to Transcontinental and Western Air to operate Airways to serve land stops in Kansas for which they have applied, Terrell C. Driskower, vice-president and general counsel of Continental Air Lines, told the board that "local lines should be allowed to expand and not be gobbled up by the greed of other carriers."

"We regard TWA's application as an attempt to encroach in improper fashion in a territory that should be served by a local carrier," Driskower said. He testified at a hearing in Washington before the Civil Aeronautics Board, on applications of these three airlines covering Topeka, Salina and Hutchinson, Kan. "Continental has no desire to be transcontinental so far as to operate the United States, Driskower asserted. For instance, it does, however, need to extend its route miles, and he added that the company's experience in this territory would not indicate that there was sufficient traffic to support three carriers.

Continental, which now operates AM 48 between Hutchinson, Kan. and AM 49 from Denver to Kansas City via Salina and Topeka has been authorized, has asked CAB to be allowed to join these routes from Salina to Hutchinson.

► **Complementary**—TWA, on the other hand, agreed that local traffic is of vital importance to the economical operation of the airline. Citing their experience with the development of some short haul routes, Warner indicated that TWA's vice-president is charge of traffic, testified that his company believes long haul and short haul services are complementary and can best be run by the same operator.

TWA not only is definitely interested in local traffic, but its record will show the extent to which it already has developed local traffic, he said, citing its routes to St. Louis and Kansas City as examples.

► **Skip-Stop Route**—TWA's application also to include Topeka, Salina and Hutchinson as intermediate points on AM 2. At the hearing, Driskower said that TWA, for the present, TWA would serve these points on a skip-stop basis.

Public Interest at Stake

THE Lea Bill, which should come before the House for a vote in the near future, unless diverted by railroad pressure, is the most important statement setting forth the principle of exclusive federal regulation of all air commerce and air navigation which has come before the congress since the Civil Aeronautics act of 1926.

Virtually all of the Nation's aviation enterprises have gone on record supporting this principle. The American Bar Association has declared the bill in accord with its announced policies.

Chief opponents and most active in subverting the bill are strong railroad forces which do not necessarily represent all of the railroad industry.

The initiative is being pressed in a subterranean campaign by the Transportation Association of America, which the Senate Committee on Interstate Commerce found to be primarily an organization to promote the interests of the Association of American railroads. The Transportation Association is both directly and indirectly promoting an "integrated" system of national transportation which would put all means of transport in each of numerous regions under one monopoly agency, with the strongest rail interests dominating.

The association, therefore, brings into the fight

on the Lea Bill not only the air transport industry but every other non-railroad transportation means.

Thus, Congress actually has before it the broad problem of competition in all transportation.

Three times in the past 30 years Congress has declared a policy of preserving competition between forms of transport, either by stated prohibitions against acquisition of one by the other, or by permitting acquisition only under restrictions. Each time Congress has faced the issue and insisted upon preservation of competition, and it should be made clear that, if the matter is to be reopened, Congress should do so with reference to all forms of transportation rather than as related to only one.

If public interest is to be served—which, after all, is the sole consideration—it seems more likely to be brought about if railroads and airlines are kept separate and in a position of competition in service and rates. That will stimulate both to render better service at the lowest rates possible. There certainly should be no change in existing public policy except on positive assurance that public interest will be served. So far that has not been shown. Let the railroads explain concretely how the general public will profit by permitting railroads to engage in air transportation.

The Problem of Small Airlines

CAB member Oswald Ryan went on record twice last week for expansion of smaller airlines. He suggests either new routes or mergers. Mr. Ryan has held this opinion for some time, so have one or two other members of the board. It is interesting that both statements appeared at this time, when the air transport industry is in a merger mood.

Approval of the Inland Air Lines sale to Western is up before the board and probably will be forthcoming. The industry at the moment is acutely conscious of its relative size and disadvantages inherent in an "unbalanced" system. It is fighting for passage of the Lea Bill in the House against a well-aided campaign of important railroad interests which see misrepresenting the bill to state officials and the press. Furthermore, several other airline merger projects in various stages of gestation for months are nearly ready to appear.

In a concurring opinion on CAB's denial of a Memphis-Greenville route for Eastern Air Lines, later expanded in an address in Kansas City, Mr. Ryan said "The attainment of an improved balance in our air transportation system through the expansion of our smaller air carriers, where such expansion is economically and geographically sound, seems to me to merit the serious consideration of this Board."

It appears a "reasonable conclusion," Mr. Ryan says, from experience of rail carriers and air carriers alike, "that any great disparity in size between carriers is not conducive to a balanced transportation system. A small air carrier is likely to suffer serious operating and financial handicaps in competition with large carriers. It has less leverage over which to spread its fixed overhead costs. It often finds the efficient and economic utilization of its aircraft equipment difficult of achievement. It frequently bears the burden of excessive financing costs."

It would be a mistake to consider Mr. Ryan's statements, speaking as an individual rather than as a member of the Board, as an indication of an immediate change in Board policies. But it is safe to say that he would not have made this public address on the subject over the protests of his fellow members. The Ryan opinions definitely will have the effect of a "trial balloon." They will probably be received with general approval in the industry. The smaller operators will anticipate new routes; the larger lines will be attracted by possibility of absorbing certain uneconomical companies. The statements should pave the way for official action on the part of the Board in the near future.

ROBERT H. WOOD

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